



# Australian Bureau of Statistics

## 6150.0.55.003 - Labour Account Australia, Quarterly Experimental Estimates, September 2018

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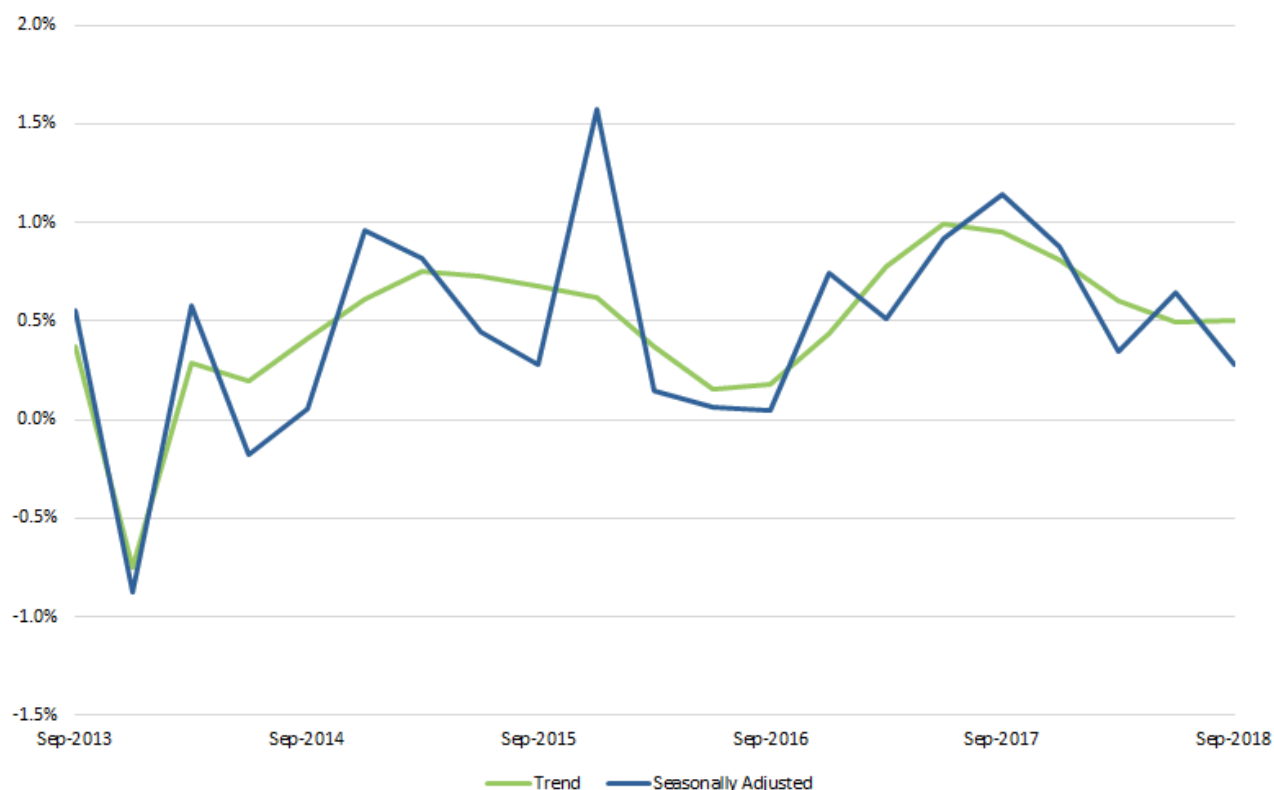
## Summary

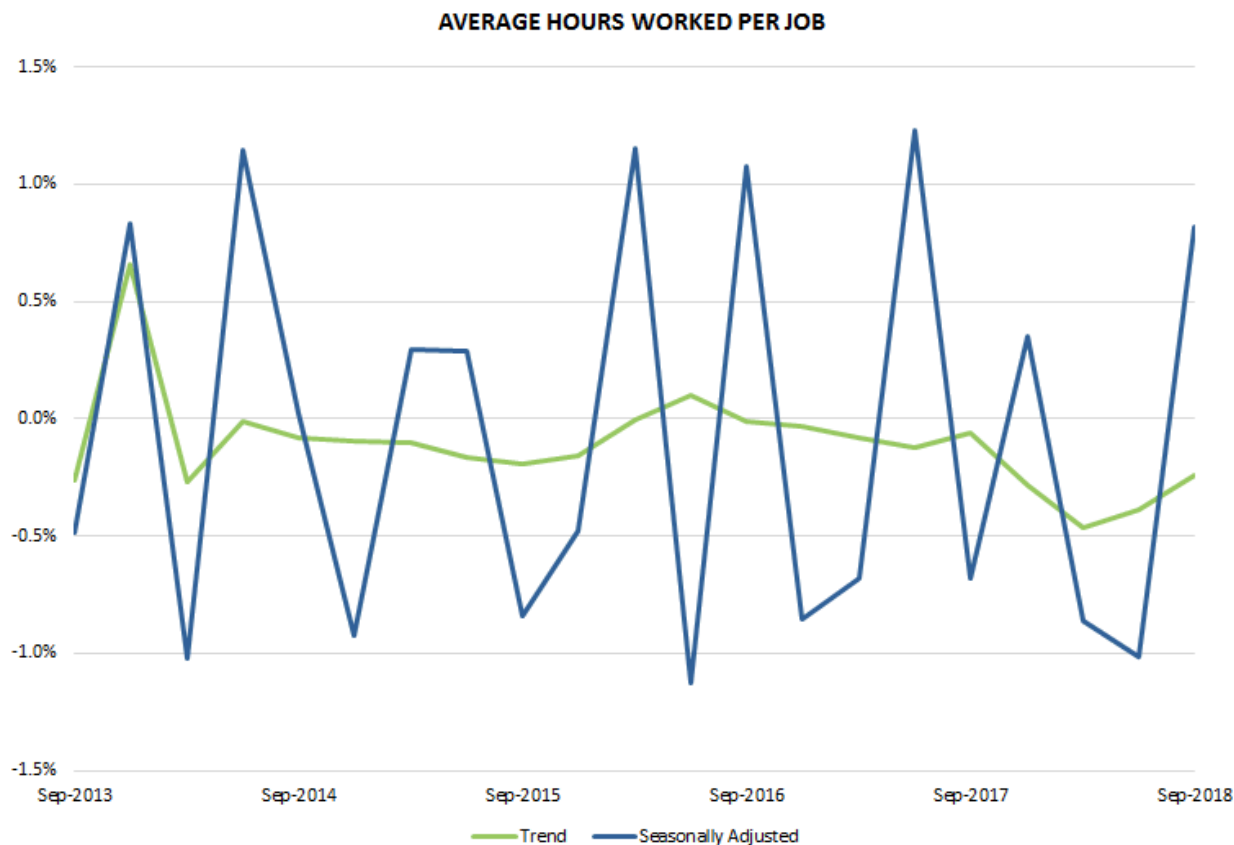
### Key Findings

#### KEY FINDINGS

Data Item Description	Trend		Seasonally Adjusted	
	Jun qtr 2018 to Sep qtr 2018 % change	Sep qtr 2017 to Sep qtr 2018 % change	Jun qtr 2018 to Sep qtr 2018 % change	Sep qtr 2017 to Sep qtr 2018 % change
Filled Jobs	0.5	2.4	0.3	2.2
Main Job	0.4	2.1	0.2	2.0
Secondary Job	1.7	6.6	2.0	4.9
Job Vacancies	2.6	17.7	0.4	16.2
Hours Actually Worked	0.3	1.0	1.1	1.4
Average Hours Actually Worked Per Job	-0.2	-1.4	0.8	-0.7
Average Income Per Employed Person	0.7	2.1	0.6	2.4

#### FILLED JOBS - GROWTH





The number of filled jobs in Australia increased by 39,556 to 14.0 million in seasonally adjusted terms in the September quarter 2018.

Main jobs increased by 20,418 and secondary jobs increased by 19,138.

Hours actually worked increased by 57.8 million hours to 5.3 billion hours.

Total labour income increased by \$1,821 million, resulting in the average labour income per employed person being \$17,960.

## Analysis

This document was added or updated on 06/11/2020.

### ANALYSIS

#### TREND ESTIMATES

In trend terms the total number of jobs in Australia increased by 76,429 (or 0.5%), made up of 6,111 job vacancies and 70,317 filled jobs.

Filled jobs in Australia grew by 0.5% in the September quarter 2018, following a 0.5% rise in the June quarter 2018. Filled jobs grew 2.4% through the year in trend terms. The number of main jobs grew by 54,384 (an increase of 0.4%) while secondary jobs grew by 15,933 (an increase of 1.7%) in the September quarter 2018.

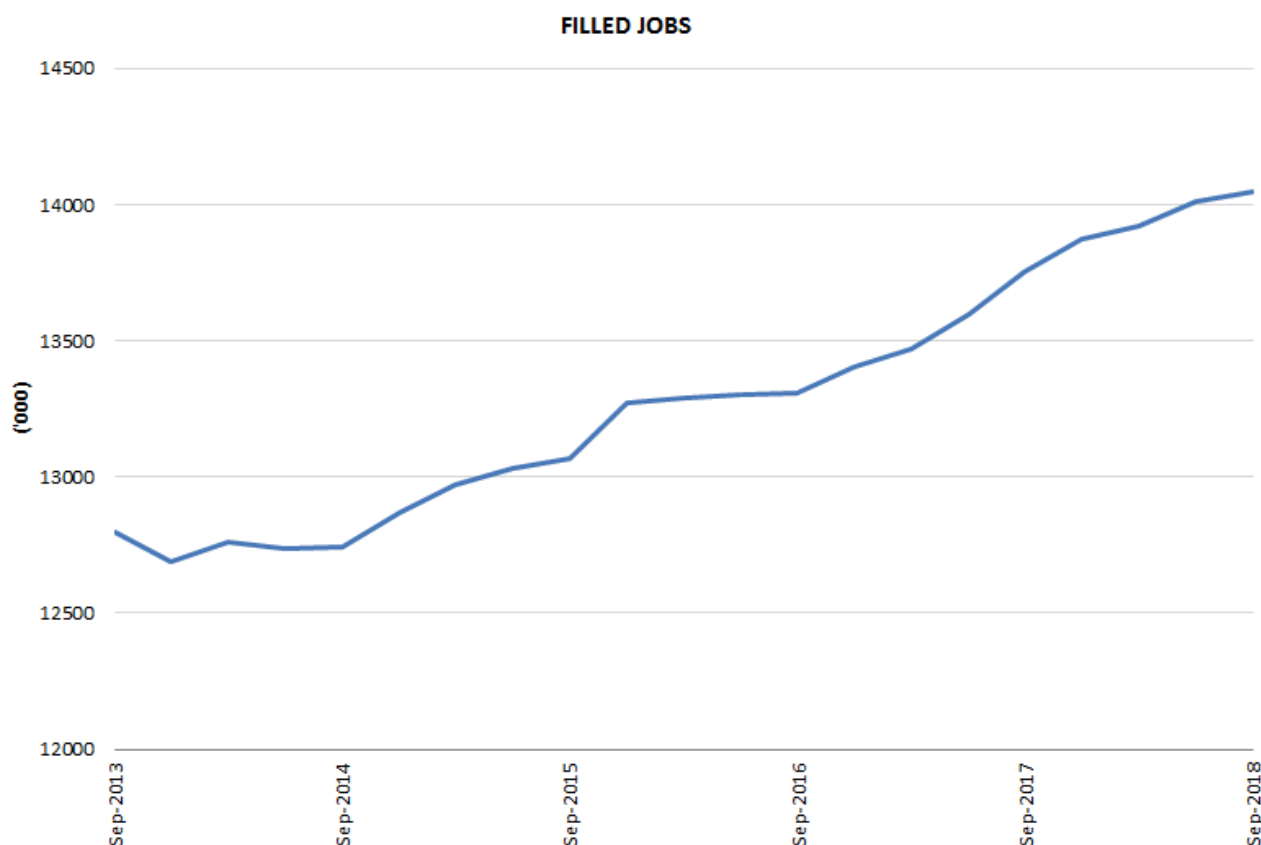
The total number of employed persons increased by 0.4% to 13.7 million in the September quarter 2018.

The total number of hours actually worked increased by 0.3% to 5.3 billion hours, and the total labour income increased by 1.1% to \$246,860 million.

#### SEASONALLY ADJUSTED ESTIMATES

## Jobs

Filled jobs in Australia grew by 0.3% in the September quarter 2018, following a 0.6% rise in the June quarter 2018. Filled jobs grew 2.2% through the year in seasonally adjusted terms.

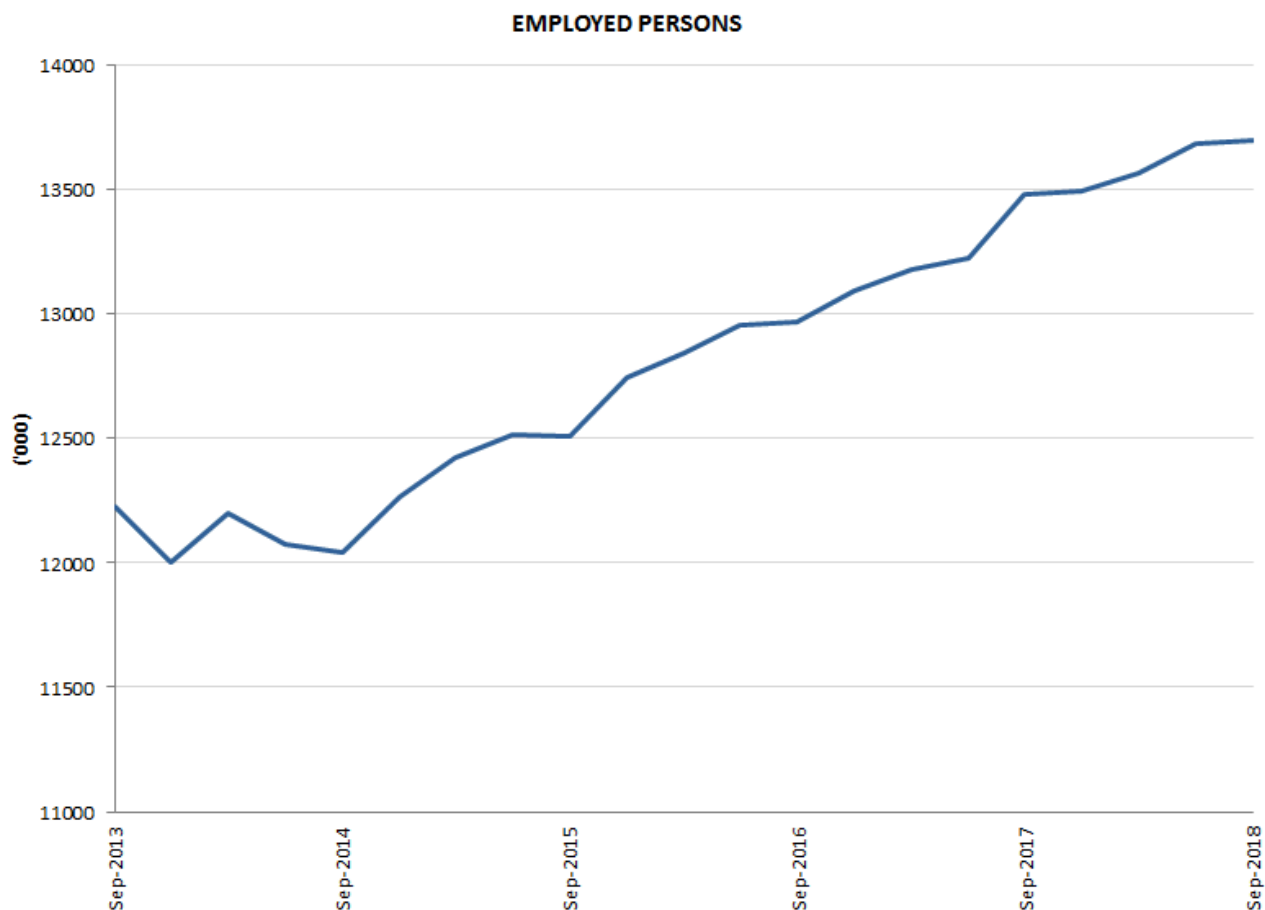


The total number of jobs in Australia increased by 40,560 (or 0.3%), made up of 1,004 job vacancies and 39,556 filled jobs.

The number of main jobs grew by 20,418 (an increase of 0.2%), while secondary jobs grew by 19,138 (an increase of 2.0%) in the September quarter 2018.

## Persons

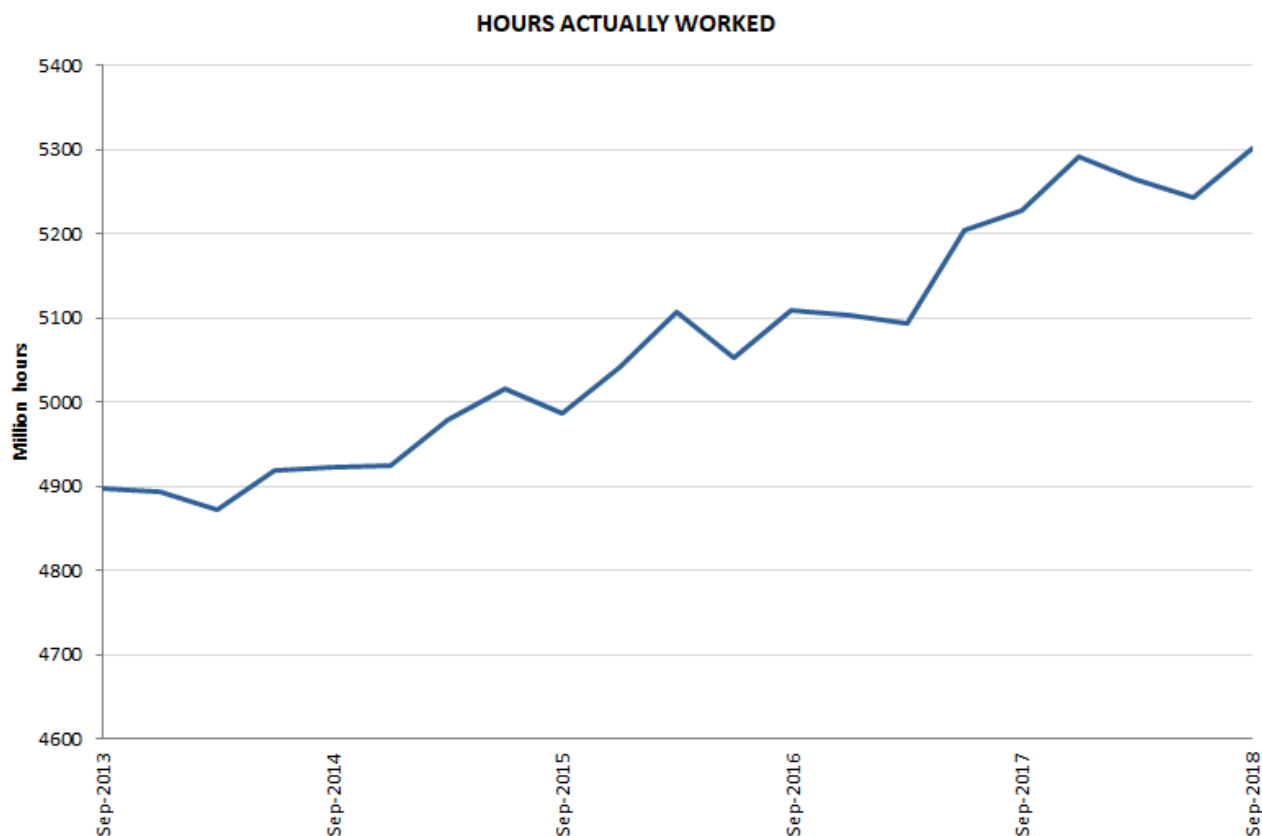
The total number of employed persons increased by 0.1% to 13.7 million in the September quarter 2018.



The proportion of employed persons working more than one job was 6.7% in the September quarter 2010 and 7.0% in the September quarter 2018.

### Volumes

The total number of hours actually worked increased by 1.1% to 5.3 billion hours; and the total number of hours paid increased 1.1% to 5.7 billion hours.



## Payments

Total labour income increased by 0.7% to \$245,993 million.

Total compensation of employees increased by 1.0% to \$223,292 million, and labour income from self-employment decreased by 1.9% to \$22,701 million.

Over the same period, total labour costs increased by \$1,989 million (0.8%) to \$261,213 million.

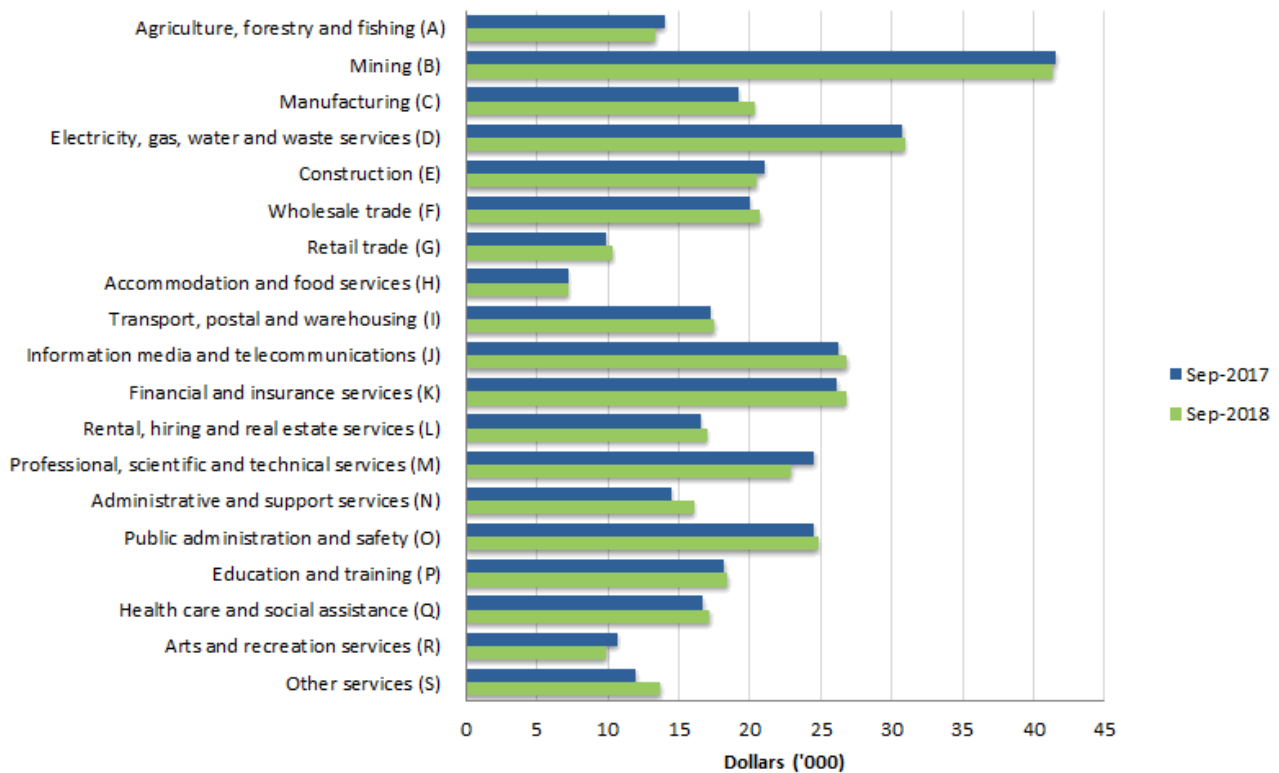
## Ratios

Average income per person increased by 0.6% to \$17,960 in the September quarter 2018.

Average hours worked per job increased by 0.8% to 377 hours.

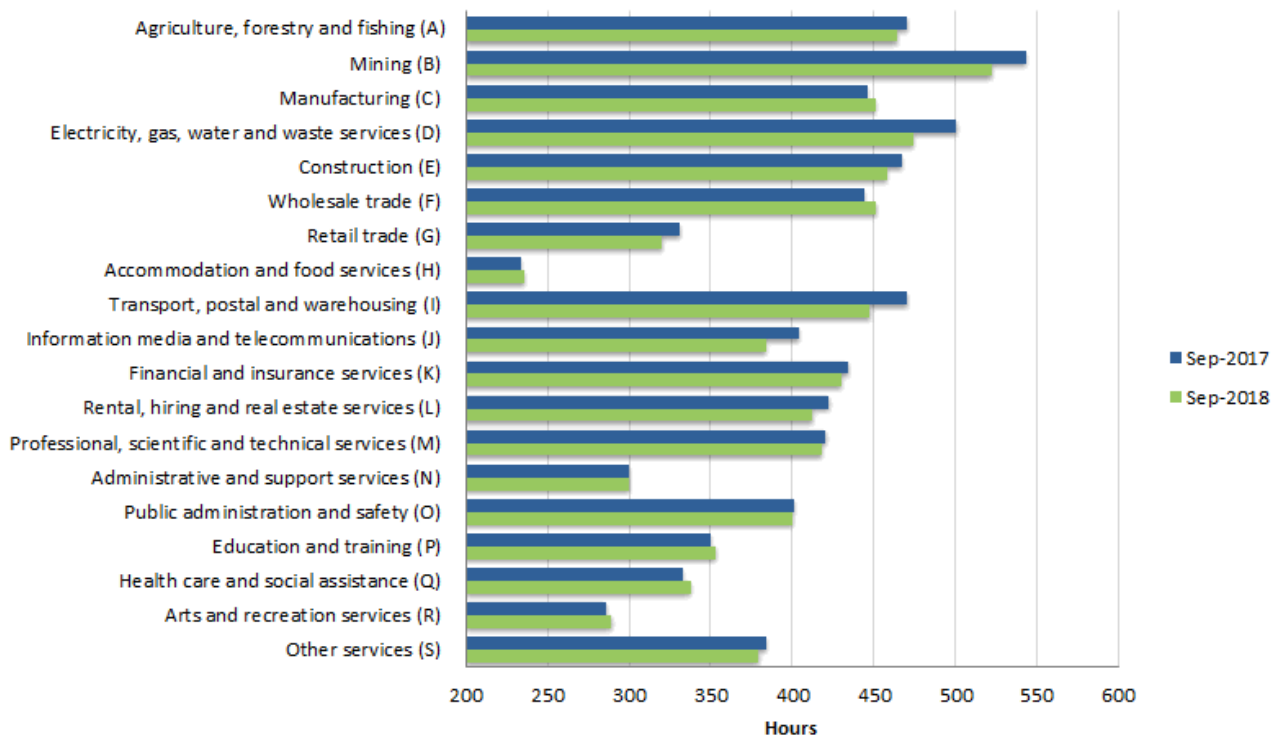
Average labour cost per hour paid remained the same at \$46.

### AVERAGE INCOME PER EMPLOYED PERSON, BY INDUSTRY, SEP QTR 2017 AND SEP QTR 2018

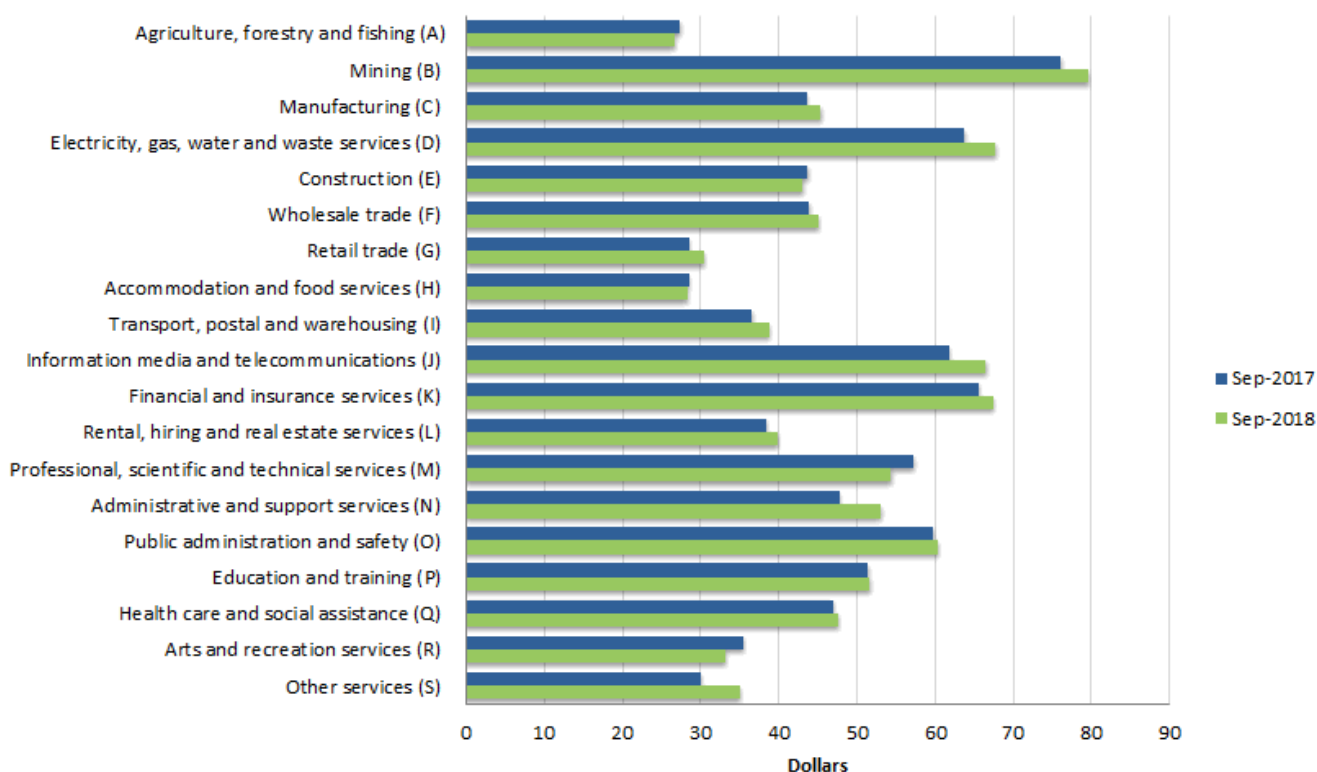


Average hours worked per job is the hours actually worked divided by all filled jobs.

### AVERAGE HOURS ACTUALLY WORKED PER JOB, BY INDUSTRY, SEP QTR 2017 AND SEP QTR 2018



### AVERAGE LABOUR COST PER HOUR PAID, BY INDUSTRY, SEP QTR 2017 AND SEP QTR 2018



## Jobs

### JOBS

Filled jobs in Australia grew by 0.3% in the September quarter 2018, following a 0.6% rise in the June quarter 2018. Filled jobs grew 2.2% through the year in seasonally adjusted terms.

### Labour Account Filled Jobs, Proportion by Industry, September quarter 2018

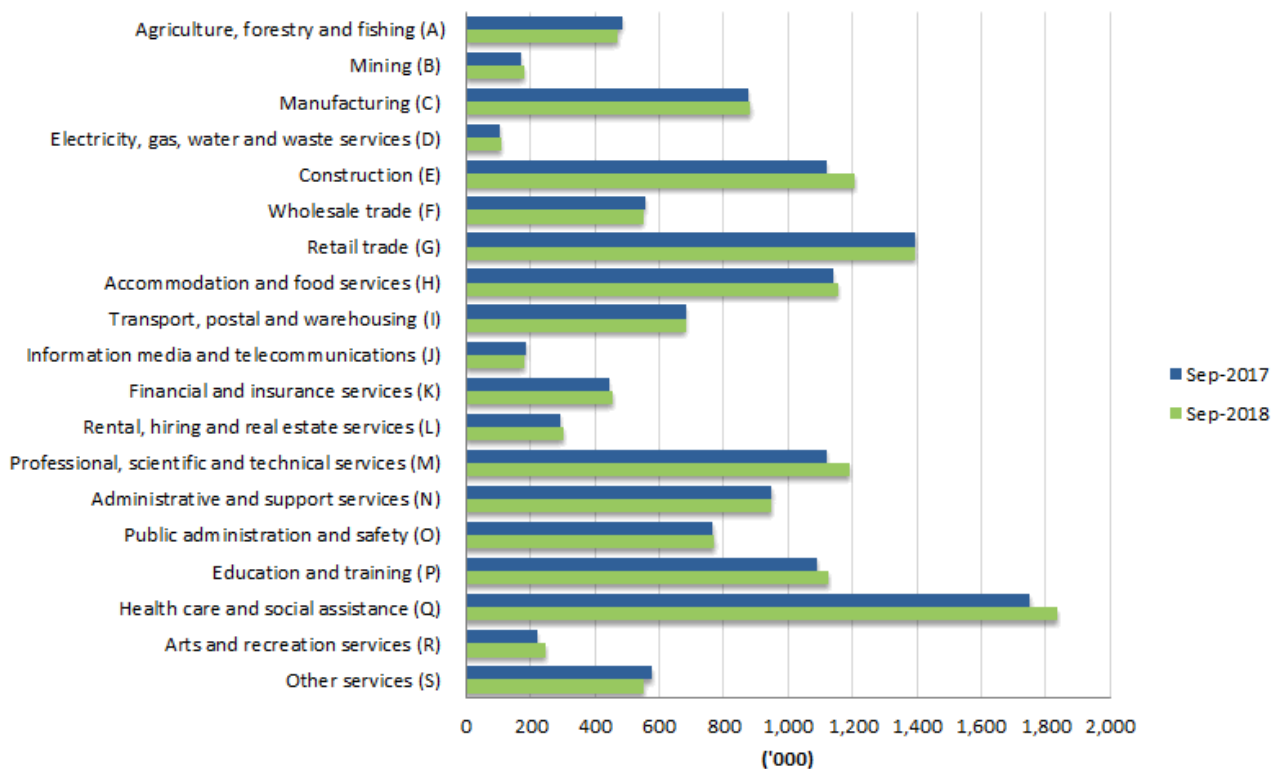
Industry	Labour Account Filled Jobs September qtr 2018 ('000)	Proportion of Total All Industries September qtr 2018 (%)
Agriculture, forestry and fishing (A)	472.5	3.4
Mining (B)	176.8	1.3
Manufacturing (C)	874.3	6.2
Electricity, gas water and waste services (D)	108.9	0.8
Construction (E)	1,193.5	8.5
Wholesale trade (F)	542.1	3.9
Retail trade (G)	1,376.1	9.8
Accommodation and food services (H)	1,140.6	8.1
Transport, postal and warehousing (I)	676.4	4.8
Information media and telecommunications (J)	181.1	1.3
Financial and insurance services (K)	446.6	3.2
Rental, hiring and real estate services (L)	301.0	2.1
Professional, scientific and technical services (M)	1,165.7	8.3
Administrative and support services (N)	904.1	6.4
Public administration and safety (O)	763.3	5.4
Education and training (P)	1,121.4	8.0
Health care and social assistance (Q)	1,812.8	12.9
Arts and recreation services (R)	247.4	1.8
Other services (S)	544.2	3.9
<b>Total All Industries</b>	<b>14,048.8</b>	<b>100.0</b>

### Labour Account Filled Jobs, Percentage Change by Industry, September quarter 2018

Industry	Trend	Seasonally Adjusted
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	Jun qtr 2018 to Sep qtr 2018 % change	Sep qtr 2017 to Sep qtr 2018 % change	Jun qtr 2018 to Sep qtr 2018 % change	Sep qtr 2017 to Sep qtr 2018 % change
Agriculture, forestry and fishing (A)	-0.4	-1.9	-1.1	-2.3
Mining (B)	0.4	7.2	0.2	6.4
Manufacturing (C)	0.1	1.5	-0.8	1.0
Electricity, gas water and waste services (D)	0.2	1.5	1.8	3.2
Construction (E)	1.4	7.9	0.3	7.8
Wholesale trade (F)	0.4	-1.5	0.5	-1.7
Retail trade (G)	0.5	0.2	0.5	0.0
Accommodation and food services (H)	0.5	1.9	0.2	1.6
Transport, postal and warehousing (I)	0.3	0.6	1.5	-0.3
Information media and telecommunications (J)	-1.8	-2.1	-0.6	-1.9
Financial and insurance services (K)	1.2	1.8	2.7	2.5
Rental, hiring and real estate services (L)	-1.0	3.2	-0.4	3.4
Professional, scientific and technical services (M)	1.7	6.2	1.2	6.0
Administrative and support services (N)	-1.2	0.1	-3.4	-1.7
Public administration and safety (O)	0.2	0.7	0.1	0.7
Education and training (P)	0.7	3.9	0.7	3.3
Health care and social assistance (Q)	1.3	5.7	0.8	4.7
Arts and recreation services (R)	-1.1	2.9	2.4	12.5
Other services (S)	-0.1	-4.7	0.6	-4.6
<b>Total All Industries</b>	<b>0.5</b>	<b>2.4</b>	<b>0.3</b>	<b>2.2</b>

**TOTAL JOBS, BY INDUSTRY, SEP QTR 2017 AND SEP QTR 2018**



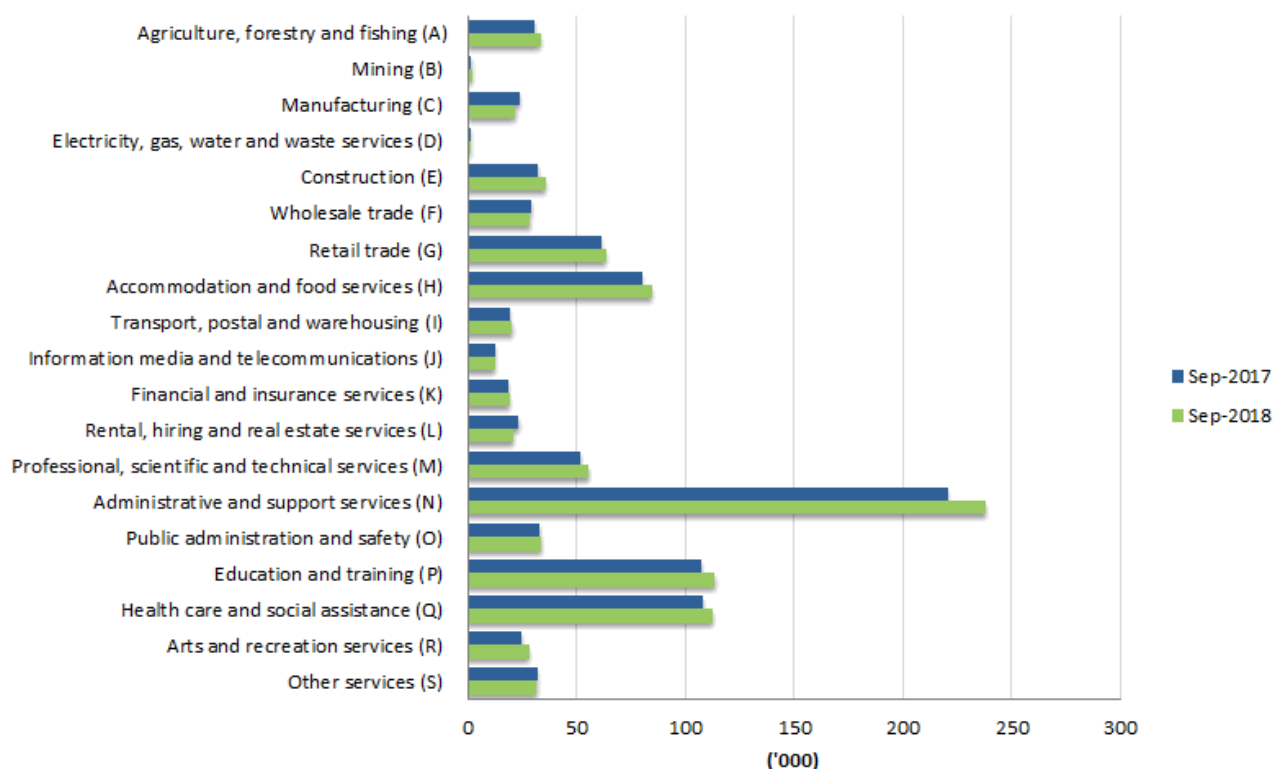
## SECONDARY JOBS

Secondary jobs can be held by persons who have their main job in the same or a different industry. In the September quarter 2018 there were 960,206 secondary jobs, representing 6.7% of total jobs.

The top three industries who have the highest number of secondary jobs in the September quarter 2018 were Administrative and support services, Health care and social assistance and Education and training.



## SECONDARY JOBS, BY INDUSTRY, SEP QTR 2017 AND SEP QTR 2018

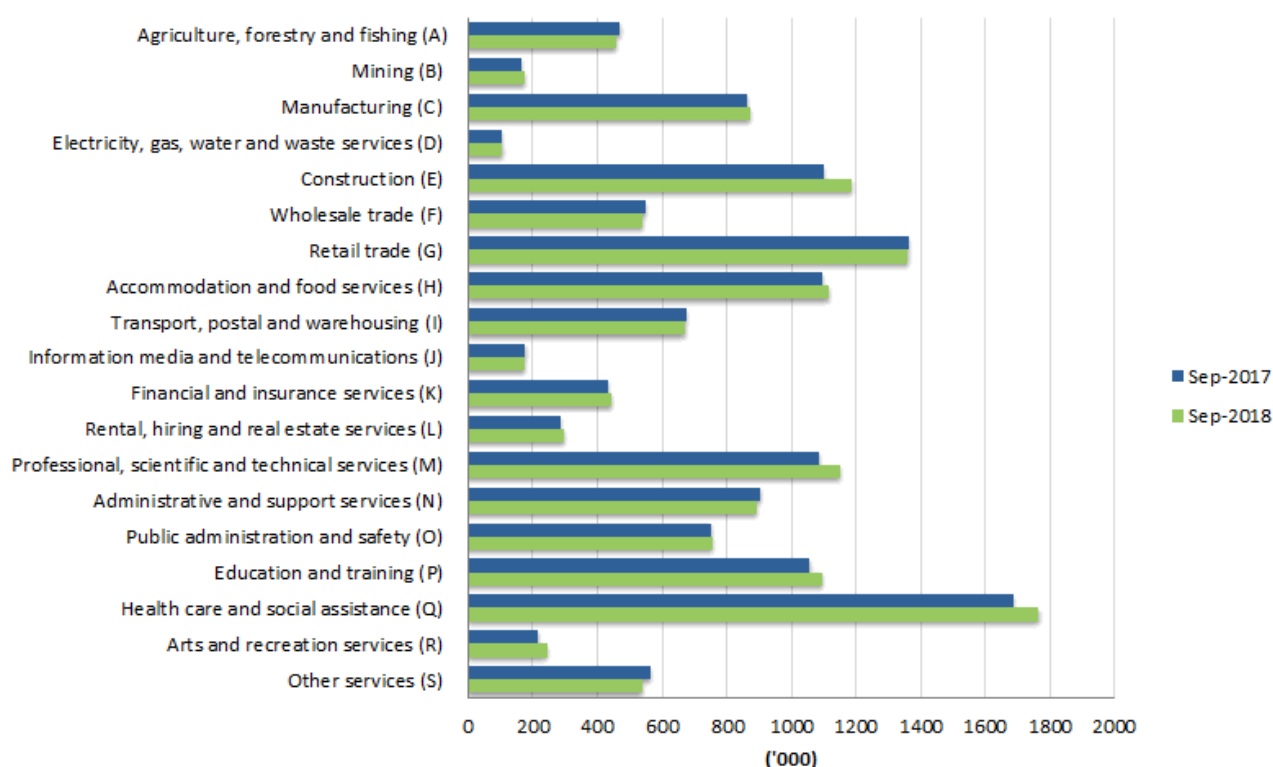


## Persons

### PERSONS

The Australian Labour Account produces the number of people employed from an industry perspective. As a result, the sum of employed persons in the Australian Labour Account across industry divisions does not equal the total number of people employed in the whole economy, given some people are employed in multiple industries.

**EMPLOYED PERSONS, BY INDUSTRY, SEP QTR 2017 AND SEP QTR 2018**

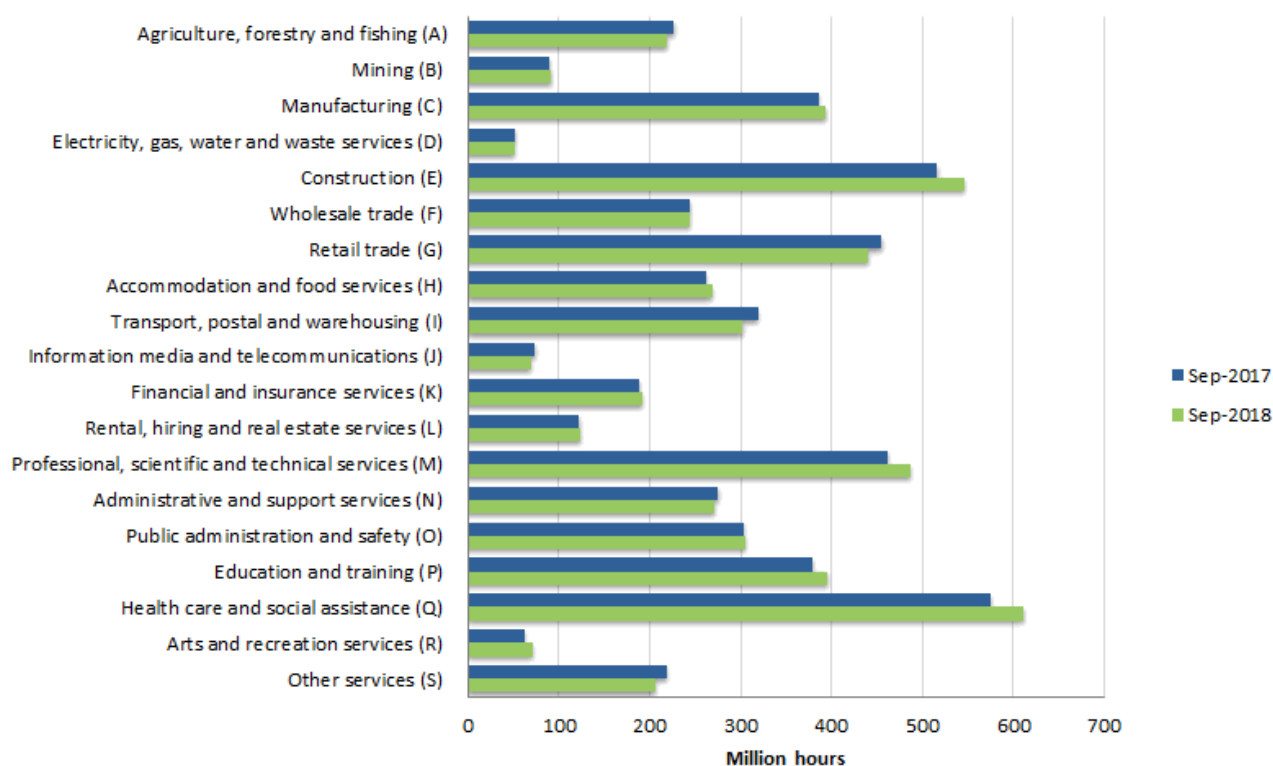


## Volume (Hours)

### VOLUME (HOURS)

Hours actually worked is the time spent in a job for the performance of activities that contribute to the production of goods and services during a specified short or long reference period.

**HOURS ACTUALLY WORKED, BY INDUSTRY, SEP QTR 2017 AND SEP QTR 2018**



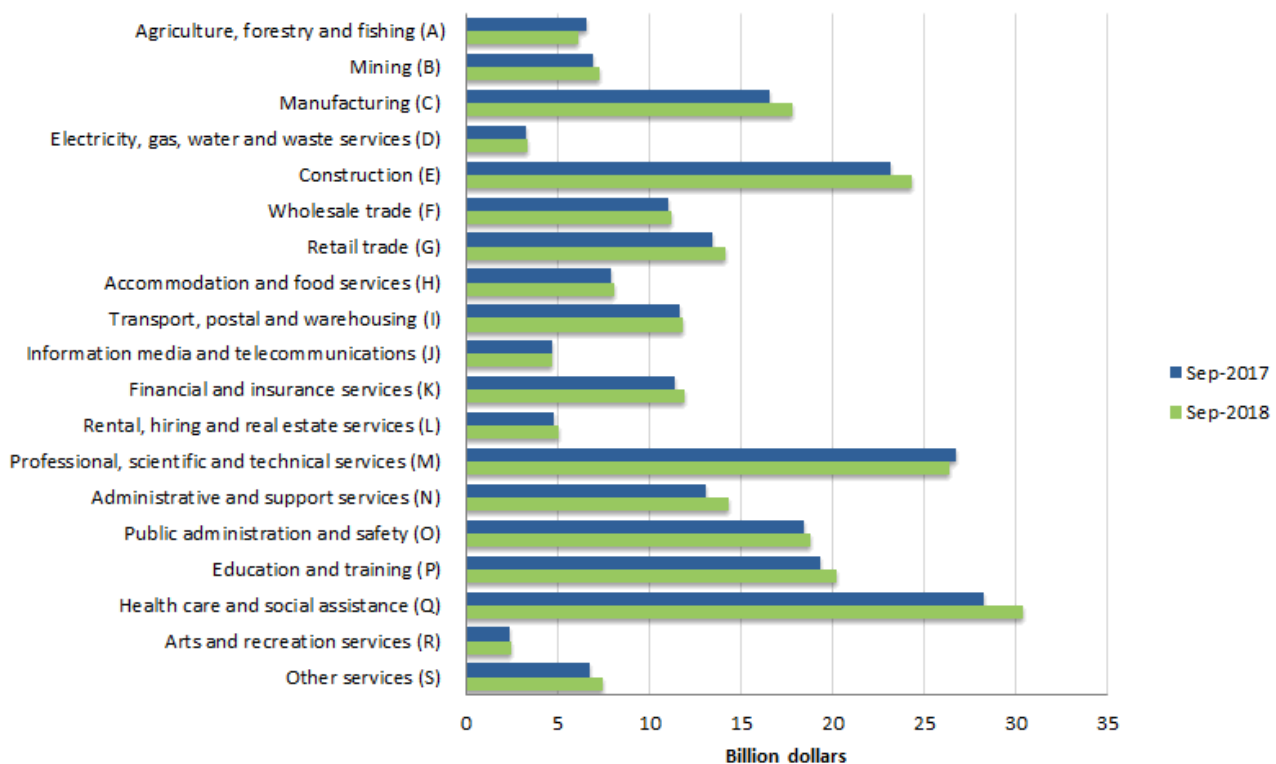
# Payments

This document was added or updated on 06/11/2020.

## PAYMENTS

The Labour Account Payments quadrant presents the costs incurred by enterprises in employing labour, and the incomes received by people from its provision. Total income consists of compensation of employees and labour income from self-employment. The addition of other related costs to employers to total income will derive total labour costs.

**TOTAL LABOUR INCOME, BY INDUSTRY, SEP QTR 2017 AND SEP QTR 2018**



## About this Release

This publication presents experimental estimates for the Australian Labour Account.

The Australian Labour Account provides a framework through which existing labour market data from different sources can be confronted and integrated, with the aim of producing a coherent and consistent set of aggregate labour market statistics.

The Australian Labour Account consists of four central quadrants of Jobs, Persons, Labour Volume and Labour Payments. Data in each table are available quarterly, and for the industry divisions defined in the Australian and New Zealand Standard Industry Classification (ANZSIC).

## History of Changes

6/11/2020

Amendments made to correct unit labels on two graphs - Hours actually worked and Total labour income by industry. There are no revisions to any time series or excel spreadsheets.

12/12/2018

This release contains information from 2010-11 to 2017-18 for the Australian Labour Account for over 80 different industries. Further information can be found in the ABS.Stat tables.

# Explanatory Notes

## Explanatory Notes

### INTRODUCTION

**1** The purpose of the Australian Labour Account is to support macro-economic analysis requiring data on peoples' participation in paid employment and related production over time. Its development provides an opportunity to significantly improve the quality of aggregates such as the number of jobs occupied within each industry, measures of hours worked, and labour productivity growth.

**2** The concepts and definitions underlying the Australian Labour Account are built on International Labour Organisation (ILO) fundamentals, and expands them to ensure consistency with the System of National Accounts (SNA08). The result provides a set of core macro-economic labour market variables derived through data integration, with both an industry focus and time series dimension.

**3** The Australian Labour Account does not include analysis of persons, jobs, hours and payments by age or gender, as for most policy purposes these needs are adequately met from the existing Labour Force Survey, labour demand business surveys and Census publications produced by the ABS.

### CHANGES IN THIS ISSUE

**4** Data in the four quadrants of the Labour Account, both quarterly and annual, have been revised from the previously published estimates.

**5** Revisions may be attributable to a range of factors, including:

- Revisions to quarterly source data, including:
  - revisions to data from the Labour Force Survey,
  - revisions to Overseas Arrivals and Departures data, and
  - revisions to data from the quarterly Australian National Accounts.
- Incorporating updated annual source data, including:
  - data from the 2016-17 Economic Activity Survey,
  - data from the 2017-18 Survey of Employment and Earnings,
  - data from the 2016-17 Supply and Use tables,
  - data relating to industry of sponsor for 2017-18 for sponsored short term non-residents, and
  - data from the August 2017 Characteristics of Employment Survey and the February 2018 Participation, Job Search and Mobility Survey.
- Improvements to the industry distribution of secondary jobs. These improvements relate to the following key changes:
  - data from the Linked Employer-Employee Database are now available for periods from 2011-12 to 2015-16,
  - data are now extracted from the Linked Employer-Employee Database for multiple points throughout a financial year, instead of once at the end of a financial year. This has improved the industry distribution of secondary jobs by more accurately reflecting quarterly changes in industry allocations, and
  - data are now taken from the Linked Employer-Employee Database relating to the industry of an individual's third and fourth jobs. This has improved the industry distribution of secondary jobs by accounting for differences in industry allocation between each secondary job, rather than allocating all secondary jobs held by an individual to the industry of their second job.
- Seasonal factors for quarterly seasonally adjusted and trend data have been refined with the addition of a

further quarterly observation.

**6** To see the impact of these updates, refer to Table 22. Quarterly Revisions.

## OUTPUT

**7** The Australian Labour Account, in essence, is a system for compiling a set of core labour market statistics from existing data. The output is a set of tables that provide a systematic and consistent view of the core variables over time.

**8** Labour Account statistics are arranged in four "quadrants": Jobs, Persons, Labour Volume and Labour Payments.

**9** In the compilation process, residual differences remain between the estimated number of filled jobs based on business sources and those derived from household sources. These differences remain after making adjustments for known conceptual and scope differences. They represent measurement error in the respective sources, and are reflected in the "statistical discrepancy" series highlighted in the "unbalanced" tables. In the balanced tables, separate business and household estimates have been replaced by a single "filled jobs" estimate. Consequent adjustments are also made to estimates of employed persons, hours worked and hours paid for. The harmonised, or "balanced", filled jobs series are based on a more detailed industry by industry investigation of the underlying sources of measurement error. This process is ongoing, and the balanced tables reflect the current state of this work. Affected series are likely to be subject to further revision.

**10** It is important to note that measurement error refers to the unavoidable sampling, non-sampling and modelling uncertainty, rather than a mistake or omission.

## CONCEPTUAL SCOPE

**11** Accounting conventions are necessary to define the scope and treatment of activities that occur within the economy. The production and residency conventions adopted in the Australian System of National Accounts (ASNA) are used in the Australian Labour Account to determine the scope of activities covered, and the size of the economy measured.

**12** The scope of the Australian economy defined by these conventions embraces the activities of all enterprises resident within Australia's economic territory engaged in the production of goods and services, which fall within the scope of the National Accounts production boundary. The Labour Account relates to the employment of all persons in jobs created by those enterprises. In this context:

- an enterprise is a productive undertaking maintained and controlled by one or more households, corporations or "quasi-corporations" that are resident in Australia's economic territory. Enterprises include (for example):
  - businesses operated by unincorporated self-employed trades persons,
  - family operated farms,
  - large corporations such as the major commercial banks and supermarket chains,
  - Government departments and agencies like Centrelink and the ATO, and
  - schools and hospitals operated by the state, or by religious organisations and charities.
- the National Accounts production boundary embraces the production of all goods and services, with the exception of services produced by household controlled enterprises solely for consumption by the household itself. This exclusion relates to (for example) the cooking of meals for household members, household washing and cleaning and care of dependents. However, the "shelter services" provided by owner occupied dwellings are included within the production boundary.
- Australian economic territory includes all geographies under the control of the Australian Government, i.e. the Australian mainland, off-shore islands, Antarctic territories, Australian embassies and military establishments in other countries, and Australia's exclusive maritime economic zone. It excludes foreign embassies and military establishments in Australia.
- an enterprise is considered "resident" if the "economic interest" of its controlling institutional unit (household, corporation or quasi-corporation) is centred in Australian economic territory.

## FRAMEWORK

**13** The main objective of the Australian Labour Account framework is to incorporate labour input aggregates (persons, jobs, hours) which describe supply and demand in the labour market, as well as labour related payments (as income and as costs). The framework covers all types of employment including employees, self-

employment and contributing family workers.

**14** The Australian Labour Account provides a conceptual framework through which existing labour market data from different sources can be confronted and integrated, with the aim of producing a coherent and consistent set of aggregate labour market statistics.

**15** The Australian Labour Account framework has been designed to conceptually align with the ASNA framework. This enhances compatibility with national accounts and productivity estimates.

**16** Household side and business side data are confronted to help identify and address gaps and inconsistencies in the source data sets.

**17** Data confrontation is the process of comparing data that has generally been derived from different surveys or other sources, especially those of different frequencies, in order to assess their coherency, and the reasons for any differences identified.

**18** The Australian Labour Account framework has four distinct quadrants: Jobs, Persons, Labour Volume and Labour Payments. The four quadrants are linked by a set of identity relationships, which the aggregate statistics must satisfy.

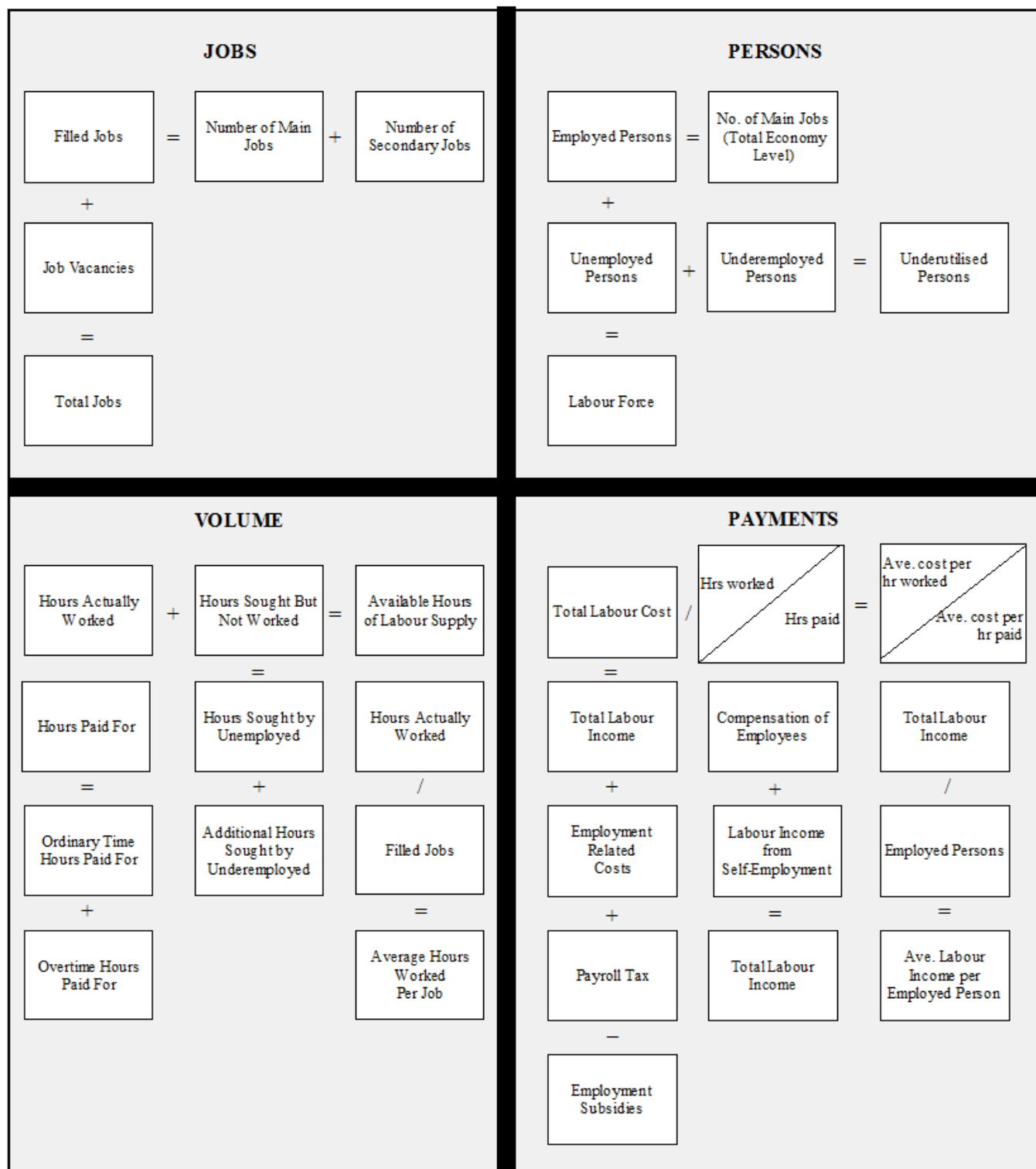
**19** Some relationships in the framework are direct:

- $\text{Employed Persons} = \text{Number of Main Jobs (at the total economy level)}$

**20** Other relationships are considered indirect, such that the relationship is based on an average or ratio measure:

- $\text{Average Hours Worked per Job} = \text{Hours Actually Worked/Filled Jobs}$

#### **Australian Labour Account: Identity Relationship Diagram**



## SCOPE ADJUSTMENTS

**21** Adjustments for scope and conceptual differences between data sources are required in compiling the Australian Labour Account..

**22** Scope adjustments are made in each of the four quadrants in the Australian Labour Account to ensure coherence.

**23** Filled Jobs (business sources) is mainly based on summing estimates from two different business surveys. Data from a third source is added to account for employment in an industry division that is outside the scope of the primary sources. The following scope adjustments are made:

- add the number of persons from known industries excluded from primary business survey sources,
- add the number of persons employed in the permanent defence forces,
- add the number of unpaid contributing family workers,
- add the number of child workers who do not work for an employer as they are excluded from business

surveys, and

- subtract the number of persons from specific industry subdivisions duplicated in primary sources to avoid double counting.

**24** Scope adjustments made in one quadrant may be applied to another quadrant, and flow through to a third quadrant, based on the identity relationships.

**25** Filled Jobs (household sources) is based on the number of jobs held by people employed in main jobs and secondary jobs sourced from the LFS, which is a household survey. Scope adjustments made to Filled Jobs (household sources) were similar to those made to Filled Jobs (business sources), to align the employed person estimates from the LFS with production boundary and residency concepts present in the business surveys. The following scope adjustments are made to Filled Jobs (household sources) to address LFS scope exclusions:

- add the number of persons employed in the permanent defence forces,
- add the number of child workers,
- add the number of main jobs held by non-resident visitors to Australia,
- add the number of secondary jobs held by non-resident visitors, and
- subtract the number of jobs held by Australian residents working in Australia for overseas businesses or organisations.

## **JOBS**

**26** A job is a set of production related tasks that can be assigned to and undertaken by a person, and for which they are usually, but not necessarily, remunerated either in money or in kind. Jobs are created by enterprises. A "filled job" exists where an enterprise establishes explicit or implicit employment contracts with individual persons to undertake the job. Estimates of movements in the number of jobs in the economy provide a measure of labour market performance and capacity.

**27** Defining a job is difficult. In the language used in national accounts, a job is an economic activity through which people engage in production. However, a dictionary definition is perhaps easiest to comprehend: a task or piece of work, especially one that is paid.

**28** In the context of the Australian Labour Account, a job is a set of production related tasks that can be assigned to and undertaken by a person, and for which they are usually, but not necessarily, remunerated either in money or in kind.

**29** The Jobs quadrant in the identity relationship diagram provides data on the number of jobs, both filled and vacant, including the number of main jobs and the number of secondary jobs.

**30** In the "Balanced" Labour Account tables, employment estimates from business surveys are reconciled with employment estimates from household surveys to produce a single harmonised Filled Jobs time series. Detailed information on data sources and methods used to compile Jobs data is in the ABS Labour Account companion publication Australian Labour Account: Concepts, Sources and Methods (cat. no. 6150.0).

## **PERSONS**

**31** The size of the labour force is a measure of the total number of people in Australia who are willing and able to work. It includes everyone who is working or actively looking for work - that is, the number of people employed and unemployed together as one group.

**32** The official measure of the population of Australia is based on the concept of usual residence. This concept refers to all people, regardless of nationality, citizenship or legal status, with some exceptions. By convention, persons are considered to be "usually resident" if they have been or intend to remain in Australia for at least 12 out of 16 consecutive months.

**33** The scope of the population in the Australian Labour Account includes all persons who contribute to Australian economic activity (as defined by the production and territory conventions of the ASNA), irrespective of their residency status.

**34** There is not always a one-to-one relationship between jobs and people, inasmuch as a job can be vacant, or one person can have more than one job. Therefore, the number of jobs in an economy will be greater than the number of persons employed.

**35** Industry estimates for the unemployed population are based on industry of last job worked (within the last two years) from the Labour Force Survey, and do not necessarily equate to the industries in which the unemployed



are currently seeking work, nor do they include those who have never held a job previously. As such, care should be exercised when interpreting estimates of unemployed persons (and therefore the total labour force) on an industry basis.

**36** The Persons quadrant provides statistics on persons employed, persons looking for and available for employment, and persons with potential for further employment. Detailed information on data sources and methods used to compile Persons data is in the ABS companion publication *Australian Labour Account: Concepts, Sources and Methods* (cat. no. 6150.0).

#### **Data Items**

**37** The data item *Labour Account labour force total* is the sum of *Labour Account employed persons* and *Labour Force Survey (LFS) unemployed persons*. Labour Account employed persons includes adjustments to the Labour Force Survey employed persons statistic to account for coverage and conceptual differences between the SNA based Labour Account and the LFS. No parallel adjustments have been made to the Unemployed total number which is taken directly from the Labour Force Survey.

**38** The data item *Labour Force Survey unemployed persons* are classified by Industry according to their last job held.

**39** The data item *Labour Force Survey underutilised persons* include *Labour Force Survey underemployed persons* plus *Labour Force Survey unemployed persons*.

**40** The data item *Labour Force Survey underemployed persons* are classified by Industry according to their main job held.

#### **LABOUR VOLUME**

**41** The Labour Volume quadrant describes the relationship between the hours of labour that are supplied by individuals and the hours of labour that are used or demanded by enterprises. It quantifies the number of hours worked by persons in all jobs. These data have a direct link to National Accounts and productivity statistics, as they are measures of labour input used in the production of goods and services.

**42** Measuring changes in the level of hours worked for different groups of employed persons is important in order to monitor working and living conditions, as well as analysing economic cycles. Information on hours of work enables various analytical insights such as: classification of employed persons into full-time and part-time status; the identification of underemployed persons; and the creation of aggregate monthly hours worked estimates.

**43** The Labour Force Survey is the primary source for household side hours worked data. Statistics relating to hours paid are based on business survey data, namely the ABS Survey of Employee Earnings and Hours, Australia (cat. no. 6306.0). Detailed information on data sources and methods used to compile Labour Volume data is in the ABS companion publication *Australian Labour Account: Concepts, Sources and Methods* (cat. no. 6150.0).

#### **Derived Items**

**44** The Average hours worked per job item is derived by using a flow measure (hours actually worked) divided by a stock measure (filled jobs at the end of the quarter). Users are advised to take account of conceptual and scope differences when comparing these data with other estimates measured at the same point in time, such as average weekly hours.

#### **Data Items**

**45** The data item *Available hours of labour supply* is the sum of *Labour Account hours actually worked in all jobs* and *Hours sought but not worked*. Labour Account hours actually worked in all jobs includes adjustments to the Labour Force Survey hours worked number to account for coverage and conceptual differences between the SNA based Labour Account and the LFS. No parallel adjustments have been made to the Hours sought but not worked number, which is taken directly from the Labour Force Survey.

#### **LABOUR PAYMENTS**

**46** The Labour Payments quadrant accounts for the costs incurred by enterprises in employing labour and the incomes received by people from their labour provision. It can be described as the cost of labour, and reflects the interactions between jobs, persons and labour volume (hours worked).

**47** The measure of total labour costs is based on the concept of labour as a cost to employers and includes

wages and salaries, employers' social contributions (typically superannuation and/or social insurance payments), and all other general employee costs borne by the employer such as training costs, use of recruitment services, payroll tax and so on. Any government subsidies, rebates or allowances for wage and salary payments paid to employees are deducted from employers' labour costs.

**48** Labour Payments data are primarily sourced from underlying data from two ABS National Accounts publications: Australian System of National Accounts (cat. no. 5204.0) and the Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0). Detailed information on data sources and methods used to compile Labour Cost data is in the ABS companion publication Australian Labour Account: Concepts, Sources and Methods (cat. no. 6150.0).

### **Derived items**

**49** The Average labour income per person item is derived by using a flow measure (total labour income) divided by a stock measure (employed persons at the end of the quarter). As such, users are advised to take account of conceptual and scope differences when comparing these data with other estimates measured at the same point in time, such as average weekly earnings.

### **SOURCES OF ERROR**

**50** After adjusting for conceptual and scope differences between data sources, a statistical discrepancy remains between the number of filled jobs as reported by businesses and the number of filled jobs as reported by households.

**51** These discrepancies represent the cumulative impact of data source error, including survey error and modelling error. Survey error includes both sampling error and non-sampling error.

**52** Sampling error is the predictable variability arising from the use of samples, rather than a complete enumeration of the populations of enterprises and households (i.e. a census). It refers to the difference between an estimate for a population based on data from a sample and the 'true' value for that population which would result if a census were taken.

**53** Non-sampling error is caused by factors other than those related to sample selection. Non-sampling error can happen at any stage of a survey and can occur in non-survey data sources. An example of non-sampling error could be missing data or misclassification in government administrative records used directly in the Australian Labour Account. Error could occur in the industry classification of sponsored visa holders, or in the reported number of persons in the permanent defence forces.

**54** Modelling error reflects errors embedded in the modelling assumptions used in the Australian Labour Account, for example in assuming that the proportion of children aged under 15 years who work has remained constant since 2006, or in assuming that quarterly Business Indicators, Australia (cat. no. 5676.0) employment movements accurately reflect quarterly change in the latest available annual data.

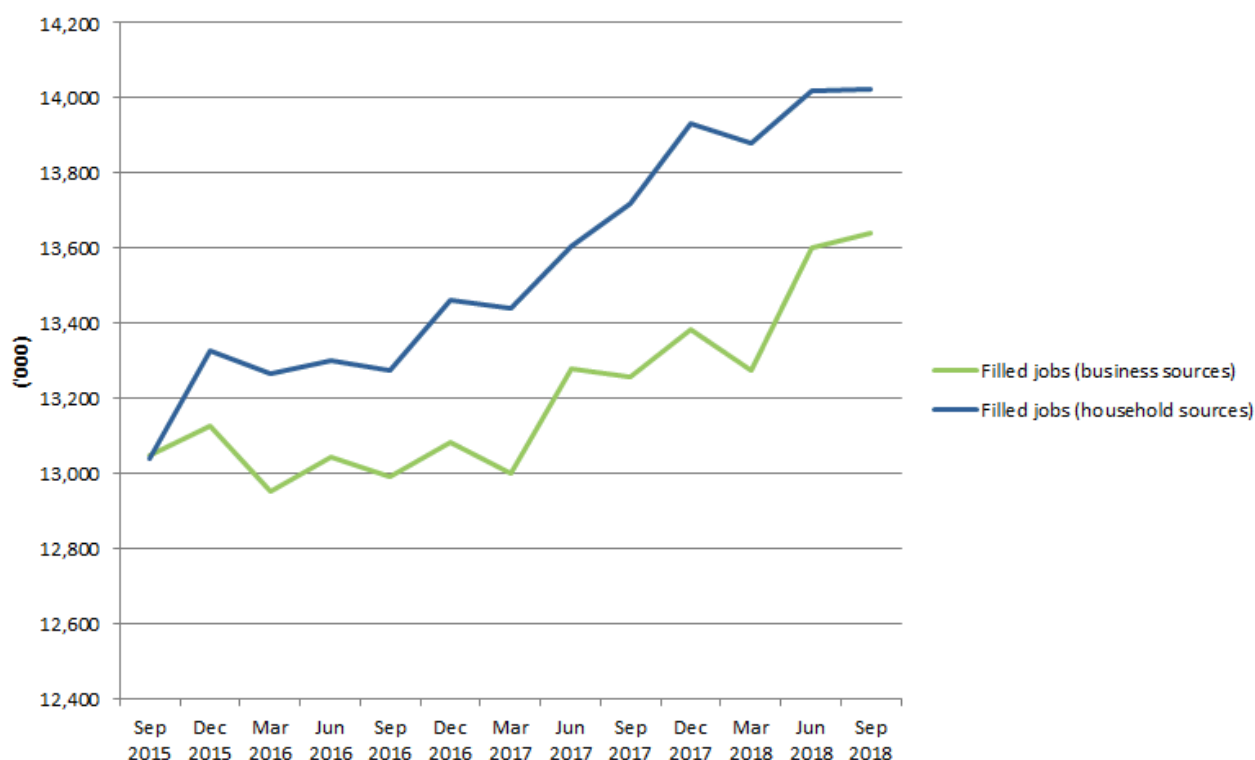
### **BALANCING THE AUSTRALIAN LABOUR ACCOUNT**

**55** In compiling the Labour Account, residual differences remain between the estimated number of filled jobs based on business sources and those derived from household sources. These differences remain after making adjustments for known conceptual and scope differences. They represent measurement error in the respective sources, and are reflected in the "statistical discrepancy" series highlighted in the "unbalanced" tables. In the balanced tables, separate business and household estimates have been replaced by a single "filled jobs" estimate. Consequent adjustments are also made to estimates of employed persons, hours worked and hours paid for. The harmonised, or "balanced", filled jobs series are based on a more detailed industry by industry investigation of the underlying sources of measurement error. This process is ongoing, and the balanced tables reflect the current state of this work. Affected series are likely to be subject to further revision.

**56** Balancing decisions for Agriculture, forestry and fishing; Mining; Manufacturing; Electricity, gas, water and waste services; Construction; Wholesale trade; Retail trade; Accommodation and food services; Information media and telecommunications; Financial and insurance services; Administrative and support services; Professional, scientific and technical services; Public administration and safety; Education and training; Health care and social assistance; Arts and recreation services were mostly business survey sources. Balancing decisions Transport, postal and warehousing; Rental, hiring and real estate services; and Other services were mostly household survey sources.

**57** In original terms the discrepancy between household sources and business sources was 383 thousand jobs, or 2.7%, in the September 2018 quarter.

**NUMBER OF FILLED JOBS, TOTAL ALL INDUSTRIES,  
SEPTEMBER QTR 2015 TO SEPTEMBER QTR 2018**



### Adjustments to other quadrants

**58** Adjustments made to filled jobs through this process flow through to two other quadrants in the Australian Labour Account: Persons and Labour Volume.

**59** The number of employed persons is adjusted proportionally with adjustments to filled jobs, after taking account of the level of multiple job holding in the particular industry.

**60** Any adjustments made to filled jobs on the household side has a corresponding adjustment to the number of hours worked. This adjustment is calculated by multiplying the adjustment to filled jobs, by the average hours worked in each industry.

**61** Any adjustments made to filled jobs on the business side has a corresponding adjustment to the number of hours paid for. This adjustment is calculated by multiplying the adjustment to filled jobs, by the average hours paid for in each industry.

### SEASONALLY ADJUSTED AND TREND ESTIMATES

**62** More detailed information on the methods for deriving seasonally adjusted and trend estimates are described in Australian Labour Account: Concepts, Sources and Methods (cat. no. 6150.0).

**63** Seasonal adjustment is a statistical technique that attempts to measure and remove the effects of systematic calendar related patterns including seasonal variation to reveal how a series changes from period to period. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences, which may be present in any particular data series. This means that movements of the seasonally adjusted estimates may not be reliable indicators of trend behaviour.

**64** It is important to note that the methods used in seasonal adjustment do not force the sum of the estimates for each quarter of a year to equal the original annual total.

**65** Seasonally adjusted estimates have seasonal effects removed, but they still contain the irregular elements, which may be of particular interest when analysing industry data. The Labour Accounts methodology and confrontation framework has addressed some of the quarterly sampling variability that may be seen in a single survey source. As a result, the industry analysis in this publication has a greater focus on seasonally adjusted data, with the remaining irregular movements being reasonably indicative of the actual state of the labour market, rather than measurement error.

**66** For analysis of the underlying behaviour of the labour market, the ABS recommends using trend estimates. These are produced using a statistical smoothing technique, in order to dampen the irregular element.

**67** For more information about ABS methods for deriving trend estimates and an analysis of the advantage of using them over alternative techniques for monitoring trends, see Information Paper: A Guide to Interpreting Time Series - Monitoring Trends (cat. no. 1349.0) or contact Time Series Analysis by email at <Time.Series.Analysis@abs.gov.au>.

## **RELATED PRODUCTS AND PUBLICATIONS**

**68** For those who are less familiar with national accounts, as well as other newcomers to the field of national accounting, the United Nations provides an introduction to some basic concepts and structures of the SNA National Accounts: A Practical Introduction. This information is freely available from the UN Statistics Division web site. [[https://unstats.un.org/unsd/publication/SeriesF/seriesF\\_85.pdf](https://unstats.un.org/unsd/publication/SeriesF/seriesF_85.pdf)].

**69** Eurostat, the statistical office of the European Union, provides similar introductory information on national accounts with its Building the System of National Accounts website[[http://ec.europa.eu/eurostat/statistics-explained/index.php/Building\\_the\\_System\\_of\\_National\\_Accounts](http://ec.europa.eu/eurostat/statistics-explained/index.php/Building_the_System_of_National_Accounts)] as does the OECD's Understanding National Accounts([http://www.oecd-ilibrary.org/economics/understanding-national-accounts\\_9789264027657-en](http://www.oecd-ilibrary.org/economics/understanding-national-accounts_9789264027657-en)).

**70** Detailed information on the Australian System of National Accounts is available in the ABS publication Australian System of National Accounts: Concepts, Sources and Methods (cat. no. 5216.0).

**71** Detailed information on the Australian Labour Account is available in the ABS publication Australian Labour Account: Concepts, Sources and Methods (cat. no. 6150.0).

**72** Detailed information on the labour force and labour force statistics is available in the ABS publication Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001).

## **Glossary**

### **Additional hours sought by underemployed**

Additional hours sought by underemployed refers to the number of additional hours part-time employed persons would prefer to work and are available for, and the number of hours not worked by full-time employed persons for economic reasons.

### **Adjustments to employed persons**

Adjustments to employed persons are the additions and deductions made to align the scope of the Labour Force Survey with Australian System of National Accounts concepts of production and residency.

Additions are made for:

- persons working in the permanent defence forces;
- non-residents (short term visitors) living in Australia and employed by Australian resident enterprises; and
- child workers.

Deductions are made for:

- Australian residents living in Australia employed by non-resident enterprises.

### **Adjustments to hours actually worked in all jobs**

Adjustments to hours actually worked in all jobs are the additions and deductions made to hours worked to align the scope of the Labour Force Survey with Australian System of National Accounts concepts of production and residency.

Additions are made for hours worked by:

- non-residents (short term visitors) living in Australia and employed by Australian resident enterprises;
- child workers; and
- persons working in the permanent defence forces.

Deductions are made for hours worked by:

- Australian residents living in Australia employed by non-resident enterprises.

### **Available hours of labour supply**

Available hours of labour supply refers to the total number of hours spent directly on and available to be spent on, and in relation to, productive activities. It is the aggregate of hours actually worked and hours preferred but not worked.

### **Average hours actually worked per job**

Average hours actually worked per job is the hours actually worked divided by the number of filled jobs.

### **Average labour cost per hour paid**

Average labour cost per hour paid is the total labour cost divided by hours paid for.

### **Average labour cost per hour worked**

Average labour cost per hour worked is the total labour cost divided by hours actually worked in all jobs.

### **Average labour income per employed person**

Average labour income per employed person is the total labour income divided by the number of employed persons.

### **Compensation of employees**

Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the employee (SNA 2008, para 7.5, ASNA 11.6). It is the value of

entitlements received by employees from employers for services rendered. It is further classified into two sub components: Wages and salaries and Employers' social contributions.

### **Contributing family workers**

Contributing family workers are persons who work without pay in an enterprise operated by a relative.

### **Employees**

Employees are persons who work for a public or private employer and receive remuneration in wages, salary, a retainer fee from their employer while working on a commission basis, tips, piece rates, or payment in kind. Employees are engaged under a contract of service (an employment contract) and take directions from their employer/supervisor/manager/foreman on how work is performed.

### **Employers' social contributions**

Employers' social contributions are payments by employers which are intended to secure for their employees the entitlement to social benefits should certain events occur, or certain circumstances exist, that may adversely affect their employees' income or welfare - namely work related accidents and retirement.

### **Employment related costs to employers**

Employment related costs to employers relates to other costs attributed to employees, such as training costs and recruitment costs.

### **Employment subsidies**

Employment subsidies are any government wage subsidies an employer may receive.

### **Filled jobs**

Filled jobs refer to all positions of employment that are currently filled (including self-employment). Filled jobs can be measured from either household sources (such as the Labour Force Survey), or business sources (such as the Economic Activity Survey).

### **Hours actually worked in all jobs**

Hours actually worked in all jobs includes:

- all time spent directly on, and in relation to, productive activities;
- down time;
- time spent in addition to hours worked during normal periods of work (including overtime);
- time spent at the place of work on activities such as the preparation of the workplace, repairs and maintenance, preparation and cleaning of tools, and the preparation of receipts, time sheets and reports;
- time spent at the place of work waiting or standing by due to machinery or process breakdown, accident, lack of supplies or power or internet access, etc.; and
- time corresponding to short rest periods (resting time) including tea and coffee breaks or prayer breaks.

Hours actually worked in all jobs excludes:

- hours paid for but not worked such as paid annual leave, public holidays or paid sick leave;
- meal breaks; and
- time spent on travel to and from work when no productive activity for the job is performed (even when paid by the employer).

For multiple job holders, actual hours worked includes the hours worked in all jobs.

### **Hours paid but not worked**

Hours paid but not worked refers to hours associated with paid leave, such as annual leave, paid public holidays, paid sick leave and other paid leave.

### **Hours paid for**

Hours paid for is the time for which payment has been received for award, standard or agreed hours of work

(paid at normal or premium rates, in cash or in kind), regardless of whether the hours were actually worked or not.

Hours paid for:

- includes time paid but not worked such as paid annual leave, paid public holidays and certain absences such as paid sick leave; and
- excludes time worked but not paid by the employer, such as unpaid overtime, and absences that are not paid by the employer, such as unpaid educational leave or maternity leave that is paid through transfers by government from social security systems.

As such, hours paid for will differ from the number of hours actually worked if an employee works more or less hours than their paid hours. Hours paid for will also differ from usual hours in some cases, for example if an employee performs long hours in some weeks to have rostered days or weeks off. Hours paid for is the aggregate of ordinary time hours paid for and overtime hours paid for.

### **Hours sought but not worked**

Hours sought but not worked refers to the number of hours a person would prefer to work and is available to work beyond the usual hours they do work. It is the sum of hours sought by unemployed, and additional hours sought by underemployed.

### **Hours sought by unemployed**

Hours sought by unemployed refers to the number of hours an unemployed person would prefer to work and is available for.

### **Hours worked but not paid**

Hours worked but not paid refers to unpaid hours worked. It is the time (hours) worked but not paid for by the employer, such as unpaid overtime, and absences that are not paid by the employer, such as unpaid educational leave or maternity leave that may be paid through transfers by government from social security systems.

### **Industry of last job held**

This is the industry of the last job held for unemployed persons aged 15 years and over who worked more than two years ago.

### **Job sharing**

A job with job sharing arrangements is a full-time job that is filled by employing two or more people working part-time to share the responsibility and duties of the one position.

### **Job vacancy**

A job vacancy is an unfilled job that an employer intends to fill either immediately or in the near future. A job vacancy is considered to exist if an employer has taken concrete steps to find a suitable person to carry out a specific set of tasks and would have recruited (entered into a job contract with) such a person if she/he had been available.

Measures of job vacancies exclude:

- jobs not available for immediate filling;
- jobs for which no recruitment action has been taken;
- jobs of less than one day's duration;
- jobs only available to be filled by internal applicants within an organisation;
- jobs to be filled by employees returning from paid or unpaid leave, or after industrial disputes;
- vacancies for work to be carried out by contractors; and
- jobs for which a person has been appointed but has not yet commenced duty.

### **Labour Account**

Labour Account added as a prefix to a data item (e.g. Labour Account main job and Labour Account secondary job) are indicative of statistical estimates made to address scope discrepancies between the principal data sources (such as the household Labour Force Survey) and the conceptual scope of the Australian Labour

Account (the SNA 2008 production and residence boundaries). For example, the number of filled jobs reported in the Labour Force Survey is adjusted by adding estimates of jobs held by members of the permanent defence forces, child workers and short-term visa holders, and deducting an estimate of Australian residents employed by non-resident enterprises.

### **Labour Account employed persons**

Labour Account employed persons is the sum of all persons engaged by Australian resident enterprises in economic activity within the System of National Accounts (SNA) production boundary.

### **Labour Account labour force**

The Labour Force, also referred to as the currently economically active population, is the aggregate of employed and unemployed persons which gives a measure of the number of people contributing to, or actively looking and immediately available for, the supply of labour at a point in time. Labour Account labour force is the sum of Labour Account employed persons and Labour Force Survey unemployed persons.

### **Labour Account main job**

Labour Account main job is the main activity carried out by an employed person. In the Australian context, this is the job in which most hours are usually worked. An employed person can only have one main job.

### **Labour Account secondary job**

Labour Account secondary job is any job held by an employed person, other than their main job. A person can have multiple secondary jobs.

### **Labour Force Survey employed persons**

Labour Force Survey employed persons is the sum of all persons, defined as employed in line with ILO guidelines and in ABS official employment statistics (Labour Statistics: Concepts, Sources and Methods, cat. no. 6102.0.55.001).

An employed person must meet the following criteria:

- be aged 15 years and over; and
- be usually resident in Australia (i.e. not a short term visitor intending to stay in Australia for less than 12 months in a 16 month period); and
- not be a member of the permanent defence forces of Australia, a foreign diplomat (or a dependant of a foreign diplomat ) or a member of a foreign military force stationed in Australia (or their dependant); and
- meet at least one of the following criteria during the Labour Force Survey reference week:
  - worked for one hour or more without pay in a family business or on a farm (contributing family workers); or
  - worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (Employees, Owner-Managers of Incorporated Enterprises (OMIEs), Self-employed persons (Owner-Managers of Unincorporated Enterprises (OMUEs)) and contributing family workers); or
  - were owner managers who had a job, business or farm, but were not at work; or
  - had a job but were not at work and were:
    - away from work for less than four weeks up to the end of the reference week; or
    - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
    - away from work as a standard work or shift arrangement; or
    - on strike or locked out; or
    - on workers' compensation and expected to return to their job.

Members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependents) stationed in Australia are excluded from the Labour Force Survey.

### **Labour Force Survey main job**

Labour Force Survey main job is the number of main jobs held by members of the usually resident civilian population aged 15 years and over. This is the official estimate of the number of main jobs derived from data



collected in the household Labour Force Survey and published in Labour Force, Australia (cat. no. 6202.0).

### **Labour Force Survey not in the labour force**

Labour Force Survey not in the labour force comprises all persons aged 15 years and over who are neither employed nor unemployed. They include people who perform home duties or care for children, are retired, voluntarily inactive and those permanently unable to work. Not all people who are classified as not in the labour force are voluntarily economically inactive; some want to work but are classified as not in the labour force because they do not satisfy the criteria for unemployment (active job search and availability to start work).

### **Labour Force Survey secondary job**

Labour Force Survey secondary job is the number of secondary jobs held by members of the usually resident civilian population aged 15 years and over. This is the official estimate of the number of secondary jobs derived from data collected in the household Labour Force Survey.

### **Labour Force Survey underemployed persons**

Labour Force Survey underemployed persons reflects insufficient hours of work and where a person is willing and available to engage in additional hours of employment. International guidelines recognise underemployment in two forms: time related underemployment (persons who would prefer more hours) and inadequate employment situations, which represents insufficient use of skills and experience; inadequate income; and excessive hours.

Time related underemployed persons refer to part-time employed persons who wanted to work more hours and were available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey; or persons employed full-time who worked part-time hours in the reference week for economic reasons. It is assumed that these people wanted to work full-time in the reference week and would have been available to do so.

Consistent with the Labour Force Survey, the Australian Labour Account only includes measures of time related underemployment.

### **Labour Force Survey underutilised persons**

Labour Force Survey underutilised persons encapsulates both unemployment and underemployment, and provides more comprehensive information on the state of labour market and measures the extent to which all available labour force resources are not being fully used in the economy.

### **Labour Force Survey unemployed persons**

Labour Force unemployed persons refers to people in the civilian usually resident population aged 15 years and over who are without work, actively seeking work and currently available for work. All three conditions must be satisfied for a person to be considered unemployed. For people waiting to start a new job they have already obtained, the active job search criterion is waived.

### **Labour income from self-employment**

Labour income from self-employment refers to the employment related income received by household members from self-employment. It consists of all payments and benefits in cash, kind or services, which are received, over a given reference period, by individuals for themselves or in respect of their family members, by virtue of their involvement in current or former self-employment jobs.

### **Ordinary time hours paid for**

Ordinary time hours paid for includes stand-by or reporting time hours which are part of standard hours of work, and hours of paid annual leave, paid sick leave and long service leave taken during the reference period. Ordinary time hours paid for at penalty rates (e.g. for shift work) are not converted to their ordinary time equivalent. This definition excludes any hours unpaid and overtime hours.

### **Owner-Managers of Incorporated Enterprises (OMIEs)**

Owner-Managers of Incorporated Enterprises (OMIEs) are persons who operate their own incorporated enterprise with or without hiring employees.

### **Owner-Managers of Unincorporated Enterprises (OMUEs)**

Self-employed (Owner-Managers of Unincorporated Enterprises (OMUEs)) are persons who operate their own

unincorporated enterprise with or without hiring employees.

### **Paid overtime**

Paid overtime, otherwise known as overtime hours paid for, represents hours paid for in excess of award, standard or agreed hours of work, at both standard and penalty rates.

### **Payroll Tax**

Payroll tax includes taxes payable by the employer on the wage and salary bill.

### **Residual (Labour Payments quadrant)**

Residual in the Labour Payments quadrant refers to the difference between 'total labour income' and 'total labour costs'. This is not a statistical discrepancy, and the two measures are similar but not conceptually identical.

### **Residual (Labour Volume quadrant)**

Residual in the Labour Volume quadrant refers to the difference between 'hours paid for' and 'hours worked'. This is not defined as a statistical discrepancy as there remains a data gap in terms of unpaid hours worked, and the two measures are similar but not conceptually identical.

This residual can provide an insight into labour market conditions. An industry in which the gap between hours paid for and hours worked is below the average for the economy as a whole is likely to be indicative of more casual employment arrangements, in which employees have less access to benefits such as paid recreation and sick leave. A reduction over time in the gap between hours paid for and hours worked could signal a tightening of labour market conditions or an increase in casualisation.

### **Secondary employment adjustment**

The secondary employment adjustment calculates the number of employed people who hold secondary jobs in each industry. It is calculated by excluding multiple job holding within the same industry, from the total number of filled jobs.

### **Statistical discrepancy**

The statistical discrepancy is equal to filled jobs from the demand side less filled jobs from the supply side, after addressing scope discrepancies. These two measures are, in principle, the same. The statistical discrepancy reflects measurement error associated with the source data.

### **Total jobs**

Total jobs refers to all positions of employment that are currently filled, or are vacant and could be filled. It is the aggregate of the number of filled jobs and the number of job vacancies.

### **Total labour costs**

Total labour costs refers to all costs incurred by the employer in the employment of labour. It is further classified into three sub components: Compensation of employees, labour income from self-employment and other labour related costs to employers.

### **Total labour income**

Total labour income refers to the employment related income received by households from all paid employment. It consists of all payments and benefits in cash, kind or services, which are received, over a given reference period, by individuals for themselves or in respect of their family members, by virtue of their involvement in current or former paid employment jobs.

### **Wages and salaries**

Wages and salaries (internationally referred to as earnings) relates to regular and irregular remuneration in cash and in kind paid to employees for time worked or work done together with remuneration for time not worked, such as annual vacation and other paid leave or holidays (ASNA 11.8).

Wages and salaries is further classified into two categories: wages and salaries paid in cash, and wages and salaries paid in kind. Conceptually wages and salaries excludes severance and termination pay, which, along with, sick leave payments; and payments for other forms of leave other than annual leave and long service leave

should be classified as employers' social contributions as recommended by the SNA 2008. However, as data providers in Australia are unable to consistently differentiate between these various types of severance and leave payments, and other wage and salary payments, these payments are included in the Australian System of National Account estimates of wages and salaries. Fringe benefits taxes which are payable on income in kind provided to employees are included as part of wages and salaries and also included in income taxes payable by households.

Payments to members of the defence forces consist of salaries and allowances, attendance pay and the value of food, clothing, and travel supplied to permanent members, reserves and cadets. Deferred pay is included but war gratuities, which are regarded as social assistance benefits, are not.

Wages and salaries also include changes in provisions for future employee entitlements, such as provisions for long service leave.

Wages and salaries paid include the values of any social contributions (e.g. to superannuation funds), income taxes, etc., payable by the employee even if withheld by the employer for administrative convenience, such as direct payment to a superannuation fund or the Australian Taxation Office (ATO). Also included are penalty payments (e.g. overtime, hazardous work allowances), supplementary allowances such as housing and meal allowances (unless paid as social benefits), holiday pay, payment while on sick leave, bonuses, and commissions, tips and gratuities paid directly to the employee by a third party.

### **Wages and salaries paid in kind**

Wages and Salaries paid in kind covers the cost to an employer of goods and services which are provided to the employee, or to another member of the employee's household, free of charge or at a substantial discount, and which are clearly of benefit to the employee as a consumer. Examples include meals, housing, uniforms that can be worn away from work, vehicles available for personal use, goods and services produced by the employer enterprise, recreational facilities, transportation, car parking, child care, low interest loans and stock options. Some of these benefits may appear more like intermediate consumption, but are included in compensation of employees because, even though they are paid to attract employees, they are benefits that employees would often have to provide themselves.

## **Quality Declaration - Summary**

### **QUALITY DECLARATION - SUMMARY**

#### **INSTITUTIONAL ENVIRONMENT**

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

#### **RELEVANCE**

This publication contains experimental estimates of the Australian Labour Account. The Australian Labour Account provides a conceptual framework through which existing labour market data from different sources can be confronted and integrated, with the aim of producing a coherent and consistent set of aggregate labour market statistics.

The Australian Labour Account is macroeconomic in scope, building on the International Labour Organisation (ILO) fundamentals and expanding them to ensure consistency with the Australian System of National Accounts (ASNA). It aims to extend the analytical capacity of national accounts data by providing a labour-specific lens.

The Australian Labour Account produces a set of statistical tables of employment related data that are consistent with the ASNA.

#### **TIMELINESS**

The Australian Labour Account tables are designed for use in macro-economic analysis. It is intended they will provide annual and quarterly data on a similar timetable and at a similar level of industry detail as the national accounts.

#### **ACCURACY**

Different data sources have been used in compiling the four quadrants of the Australian Labour Account. In general, the same data sources have been used to compile both quarterly and annual labour account estimates. Quarterly survey estimates have also been benchmarked to annual survey estimates where possible.

Australian Labour Account data at an industry level are derived where possible from data classified by industry reported in both business and household surveys. Where Australian Labour Account data at an industry level are not reported in surveys, the industry detail has been modelled using alternative sources.

The Australian Labour Account uses both published and unpublished data from various sources. These are detailed in Appendix 2 of the Concepts, Sources and Methods 2018 manual. Where unpublished data sources are referenced, for example using an ABS catalogue number, this is intended to provide background information relating to the underlying survey data only. It is not intended that users be able to fully replicate published Australian Labour Account data.

After adjusting for conceptual and coverage differences between data sources, a statistical discrepancy remains between the number of filled jobs as reported by businesses and the number of filled jobs as reported by households.

These discrepancies represent the cumulative impact of data source error, including survey error, and modelling error. Survey error includes both sampling error and non-sampling error. Sampling error is the predictable variability arising from the use of samples, rather than a complete enumeration of the populations of enterprises and households. Non sampling error is all other error in the estimate, and includes error arising from the reliability of the survey population and related benchmark data and error made by respondents in reporting data. Further information on these issues can be found under Chapter 13 of the Concepts, Sources and Methods 2018 manual.

## **COHERENCE**

There are currently no international standards regarding the production of a labour account, however a four-step process has been documented by the ILO and was followed (to varying degrees) by the National Statistical Organisations in Denmark, the Netherlands and Switzerland in compiling their own labour accounts. The ILO process has been used as a guide in compiling the Australian Labour Account.

The ILO describes two approaches to compiling a labour account: a cross-sectional approach involving confrontation and reconciliation of key labour market measures, and a longitudinal approach which incorporates changes to population and labour force via births, deaths, and net migration, and includes measures such as duration of employment. The Australian Labour Account focuses on the cross-sectional approach (since this is the approach that supports data confrontation and reconciliation), and also provides a time-series dimension.

The development of the annual Australian Labour Account disaggregated by industry subdivision and division, and the quarterly Australian Labour Account disaggregated by industry division, provide an opportunity to significantly improve the quality of aggregates such as the number of jobs occupied within each industry, measures of hours worked, and labour productivity growth.

## **INTERPRETABILITY**

Contained within this release are Data Cubes, Main Features, Explanatory Notes, Technical Notes and a Glossary. For further reference we have also compiled the Australian Labour Account Concepts, Sources and Methods manual. These all provide information on the terminology, classifications and other technical aspects associated with these statistics.

- Australian Labour Account Concepts, Sources and Methods (cat. no. 6150.0)

## **ACCESSIBILITY**

Quarterly experimental estimates for the Australian Labour Account, September 2010 Quarter to September 2018 Quarter at the industry Division level are released electronically via the ABS website as Data Cubes in spreadsheet format. Annual experimental estimates for the Australian Labour Account, 2010–11 to 2017–18 at the industry Subdivision and Division level are released electronically via the ABS website in ABS.Stat format.

The ABS welcomes comments from users on the new methodologies and the usefulness of the resulting estimates for their analytical purposes. If you are interested in contributing to the ABS review, please contact Household Income and Labour Market director on 02 6252 7988 or <labourmarket@abs.gov.au>.

# Uses of a Labour Account (Technical Note)

## TECHNICAL NOTE: USES OF THE AUSTRALIAN LABOUR ACCOUNT

### INTRODUCTION

The Australian Labour Account provides a set of core macro-economic labour market variables derived through data integration, with both an industry focus and time series dimension.

It builds on the International Labour Organisation (ILO) fundamentals and expands them to ensure consistency with the System of National Accounts (2008 SNA). The Labour Account also extends the analytical utility of National Accounts data, through providing a labour market-specific perspective.

### DEVELOPMENT

The experimental Australian Labour Account has been developed to provide a framework for integrating data from a number of sources (including household survey, business survey, and administrative data). The result is internally consistent estimates of key labour market variables, which more effectively enable the description and analysis of the state and dynamics of the Australian labour market. These core variables can help users make sense of seemingly inconsistent labour related data, which are often based on different reference periods, populations, concepts, definitions and methodologies.

These inconsistencies are magnified when data are disaggregated by industry or sector, or in analysis requiring the combination of data from both business and household sources, for example combining output and hours worked by industry to derive industry productivity growth rates. There is a risk that users may draw inappropriate conclusions from the use of different labour statistics without an informed understanding of which data to use in which circumstances.

For example, consider the following questions:

#### **How many people are employed in Australia?**

It depends on when you ask this, who you ask, and how you ask the question.

Based on the answers provided by "responsible adults" from the households where workers live, the basic approach used in the Labour Force Survey, there were 12.5 million people employed in Australia in 2017-2018.

Based on the answers provided by "responsible representatives" of businesses and other enterprises where they work, the approach adopted in business surveys, there were 13.2 million filled jobs in Australia in 2017-2018.

#### **Why are the two figures different?**

First, they are counting different things - for example, the Labour Force Survey asks about a person's main job to identify employed and unemployed people, and people not in the labour force. However, the business surveys measure the number of "filled jobs", not the number of employed people. A person holding two jobs will be counted twice in a business survey, once by each employer.

When people in households were asked how many jobs they have, they told the ABS in 2017-2018 they had 13.3 million. Businesses reported they had 13.2 million filled jobs, which was 100,000 (or 0.8%) less than reported by households in the Labour Force Survey.

The second reason for the difference is that, in line with international standards, not everyone who has a job is in the scope of the Labour Force Survey. Similarly, some forms of work are not captured by reporting businesses.

People whose main job is in the permanent military forces are not reported by either businesses or households, and household representatives are not asked to report on jobs held by people intending to stay in Australia for less than 12 months. No employment by children under 15 years, either paid or unpaid, is reported by households. In addition, unpaid contributions of work to a family business or farm by family members of any age are not reported by businesses. If the ABS adjusts for these known differences, then the number of filled jobs reported by businesses would be raised to 13.4 million, and the number of filled jobs reported by households would increase to 13.9 million.

The remaining difference of 510,000 jobs, or 3.7% of the household based estimate, reflects the unavoidable measurement limitations related to measuring filled jobs and employment.

- Likely sources of measurement error in household based data include lack of knowledge about the jobs

held by household members on the part of the person responding to the Labour Force Survey.

- On the business survey side, there is no single ABS business survey that collects employment data from businesses across the whole economy, and business based estimates of filled jobs are compiled from multiple sources, potentially resulting in a larger overall total measurement error than in any of the individual sources.
- Both business and household surveys are also subject to sampling variability. Divergences can further arise when estimating missing data, or modelling is required to offset data gaps and lags in the supply of information.

### **How many hours were worked in Australia during 2017-2018?**

Based on hours worked reported by households, and after adjusting for defence force personnel, short-term visitors and children: 21,198 million hours were worked in 2017-2018. Businesses reported the number of "hours paid for" at 21,946 million hours. These numbers imply that hours paid for but not worked, mainly various forms of paid leave, exceeded hours of unpaid overtime (hours worked but not paid for). This pattern was consistent over time at a whole of economy scale.

### **LABOUR ACCOUNT FRAMEWORK**

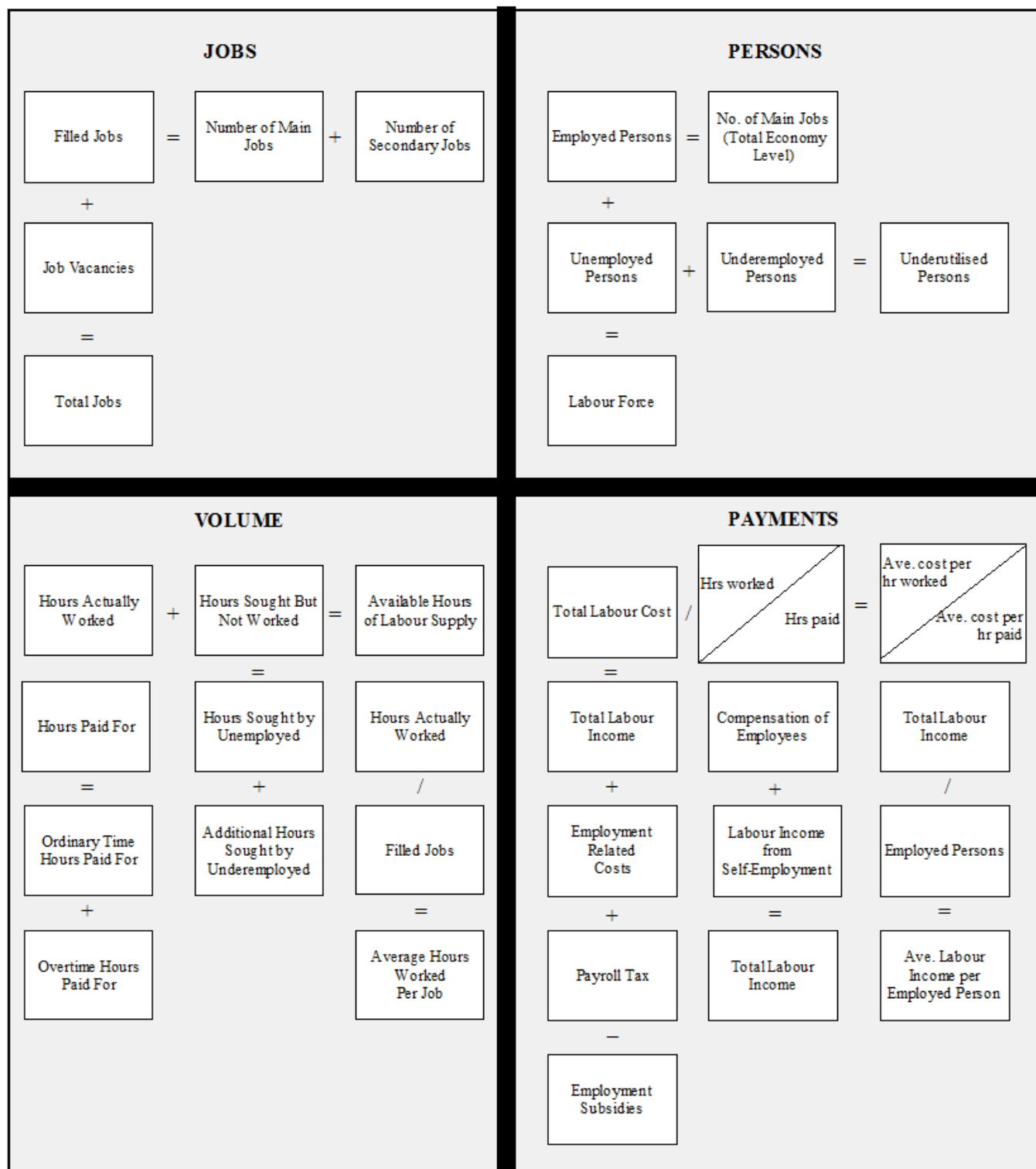
The Labour Account provides a conceptual framework through which existing labour market data from diverse sources can be confronted and integrated, with the aim of producing a coherent and consistent set of aggregate labour market statistics.

The Labour Account helps address data coherence by:

- bringing together related labour statistics from multiple sources in a single set of tables;
- applying a consistent set of concepts across the data to explore statistical anomalies;
- making transparent adjustments to data to offset conceptual and scope differences; and
- making further informed and documented data adjustments to provide a balanced set of labour statistics.

The Labour Account consists of four quadrant tables: jobs, persons, volume and payments (see figure 1). Data in each table are available annually for 86 industry subdivisions, and quarterly for 19 high level industry divisions.

### **Figure 1: Australian Labour Account Identity Relationships – Jobs, Persons, Volume and Payments**



The Jobs quadrant provides statistics on numbers of filled jobs derived separately from business and household sources, plus data on vacant jobs to provide a total number of jobs in the economy.

The Persons quadrant includes statistics on numbers of employed persons, together with data on numbers of unemployed and underemployed persons.

The Labour Volume quadrant provides statistics on hours paid for (derived from business data) and hours worked (from household sources), plus data on additional hours of work sought by unemployed and underemployed persons.

The Labour Payments quadrant provides statistics on labour income and employment costs.

The Labour Account is able to combine data from the jobs, persons, volume and payments tables to calculate average hours worked, average remuneration (per person and per job), and average labour costs per job.

The scope of the Australian Labour Account is consistent with that of the national economy, as defined in the

Australian System of National Accounts (ASNA), which follows the international standards set out in the United Nations System of National Accounts. The Labour Account includes all jobs created by enterprises engaged in the production of goods and services that fall within the scope of the National Accounts "production" boundary, operating within Australia's economic territory.

Labour Account employed persons are defined as all people who hold one or more of those jobs. Hours worked and paid for relate to productive activity in those jobs. Labour income relates to earnings derived from employment in those jobs and includes both Compensation of Employees, as defined in the ASNA, and an estimate of the labour related component of Gross Mixed Income. Labour costs relate to net employment related expenditure by businesses incorporating both labour remuneration, employment related intermediate consumption, and employment related net taxes.

The data sources used to compile Labour Account statistics do not always align completely with the ASNA. The household Labour Force Survey, for example, excludes permanent defence force personnel, short-term working visa holders and children under 15 from its count of employed persons, all of whom fall within the scope of the Labour Account and ASNA concept of employed persons. The Labour Account tables include "adjustments" to bridge the conceptual and scope gaps between the ASNA standard and the principal data sources. For example data obtained from the Commonwealth Government are used to "add in" defence force personnel. Commonwealth data on short term visa arrivals and departures are used to estimate the stock of potential employed persons in this category. Labour force participation and employment rates for resident cohorts with similar characteristics are used to estimate numbers of working short-term visitors. These adjustment methodologies are fully documented in the Australian Labour Account: Concepts, Sources and Methods (cat. no. 6150.0).

Finally, the Labour Account includes balanced estimates of filled jobs, employed persons, hours worked and hours paid for that adjust for the remaining sampling and non-sampling error. These adjustments are based on analysis of data for each industry, making use of employment related statistics on production, taxes, wages and salaries to assess the relative plausibility of various estimates.

## **USES**

The Labour Account provides a time series of estimates of the number of employed persons, the number of jobs, hours worked and the income earned for each industry in one coherent framework. Historically, published statistics on employed persons in each industry have only been available for industry of main job. The expanded scope and additional data sources used in the Labour Account includes data for multiple job holders by industry of second, third and fourth job. For the first time, this enables an industry perspective of the total number of people employed in each industry in a time series. This could be used to better assess policy changes targeting a particular industry, providing a more realistic picture of the number of people impacted by the change.

The provision of time-series data on employment, hours and earnings, that are conceptually aligned with the Australian System of National Accounts data, will help improve macro-economic analysis and forecasting.

Consistent data on employment, hours and incomes will assist in assuring the quality of national accounts production and income data. A better alignment of hours worked with production (gross output and gross value added) at an industry level will improve the reliability of both labour and multi-factor productivity statistics.

The Labour Account is a complement to the existing suite of labour statistics. Users should continue to use the Labour Force Australia (cat. no. 6202.0) for headline employment, unemployment and persons not in the labour force as this is the data suite that is internationally comparable and aligned with International Labour Organisation conventions. If users require detailed dynamics essential for analysis of individual or household characteristics, such as household type, age, sex, income, occupation and educational qualifications, they should use the source data.

The Labour Account should be used for industry analysis of labour growth and performance in terms of people, jobs, hours and income.

Labour Account tables are likely to be of most value to people engaged in the use of labour statistics in macro-economic analysis, forecasting and in policy related research.

## **The Australian Labour Account (Technical Note)**

### **TECHNICAL NOTE: THE AUSTRALIAN LABOUR ACCOUNT**

#### **WHY DEVELOP A LABOUR ACCOUNT?**

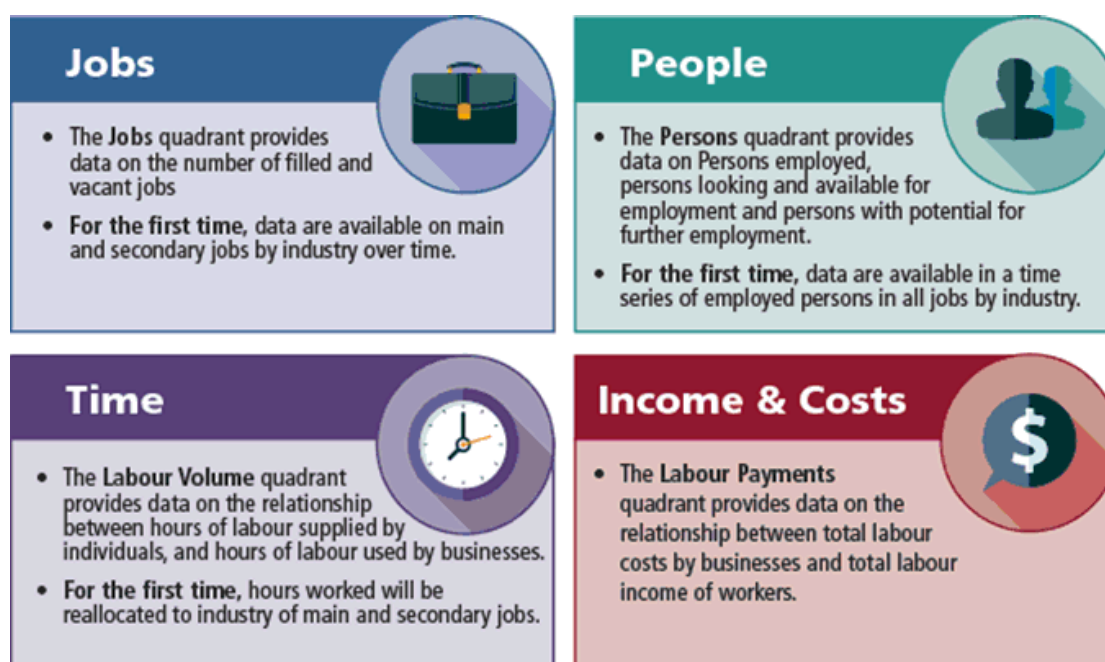


The experimental Australian Labour Account has been developed to provide a framework for integrating data from a number of sources including household survey, business survey and administrative data. The result is internally consistent estimates of key labour market variables, which more effectively enable the description and analysis of the state and dynamics of the Australian labour market. These core variables can help users make sense of seemingly inconsistent labour related data, which are often based on different reference periods, populations, concepts, definitions and methodologies.

The Labour Account provides a time series of estimates of the number of employed persons, the number of jobs, hours worked and the income earned for each industry in one coherent framework. Historically, published estimates of employed persons in each industry have only been available for industry of main job. The expanded scope and additional data sources used in the Labour Account include data for multiple job holders by their industry of second, third and fourth job.

For the first time, this enables an industry perspective of the total number of people employed in each industry in a time series. This could be used to better assess policy changes targeting a particular industry, providing a more complete picture of the number of people impacted by the change (see Figure 1).

**Figure 1: Australian Labour Account Quadrants**



## LABOUR ACCOUNT FRAMEWORK

The Labour Account consists of four quadrants: Jobs; Persons; Labour Volume and Labour Payments (see Figure 2 and 3).

The Jobs Quadrant provides data on numbers of filled jobs derived separately from business and household sources, plus data on vacant jobs to provide a total number of jobs in the economy.

The Persons Quadrant includes data on numbers of employed persons, together with data on numbers of unemployed and underemployed persons (derived from household sources).

The Labour Volume Quadrant provides data on hours paid for (derived from business sources) and hours worked (from household sources), plus data on additional hours of work sought by unemployed and underemployed persons (from household sources).

The Labour Payments Quadrant provides data on labour income and employment costs (from business sources).

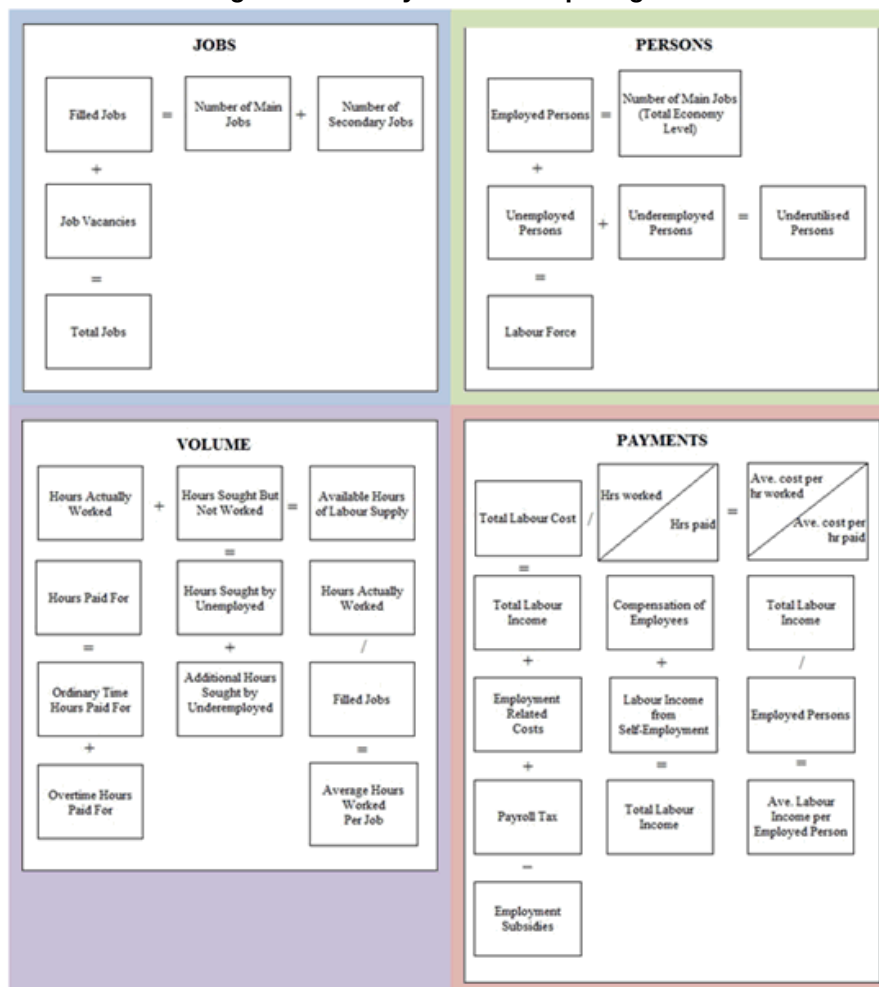
The Labour Account combines data from the persons, jobs, labour volume and labour payments tables to calculate average hours worked, average remuneration (per person and per job), and average labour cost per hour worked.

The scope of the Australian Labour Account is consistent with that of the national economy, as defined in the Australian System of National Accounts (ASNA), which follows the international standard set out in the United

Nations System of National Accounts.

Labour Account tables are likely to be of most value to people engaged in the use of labour statistics in macro-economic analysis, forecasting and in policy related research.

**Figure 2: Identify Relationship Diagram**



## CONSIDER THE FOLLOWING QUESTIONS...

### How many people are employed in Australia?

It depends on when you ask this, who you ask, and how you ask the question.

Based on the answers provided by "responsible adults" from the households where workers live, the basic approach used in the Labour Force Survey, there were 12.5 million people employed in Australia in 2017-2018.

Based on the answers provided by "responsible representatives" of businesses and other enterprises where they work, the approach adopted in business surveys, there were 13.2 million filled jobs in Australia in 2017-2018.

### Why are the two figures different?

First, they are counting different things - for example, the Labour Force Survey asks about a person's main job to identify employed and unemployed people, and people not in the labour force. However, a person holding two jobs will be counted twice in a business survey, once by each employer. Business surveys measure the number of "filled jobs", not the number of employed people.

When people in households were asked how many jobs they have, they told the ABS in 2017-2018 they had 13.3 million. Businesses reported they had 13.2 million filled jobs, which was 100,000 (or 0.8%) less than reported by households in the monthly Labour Force Survey.

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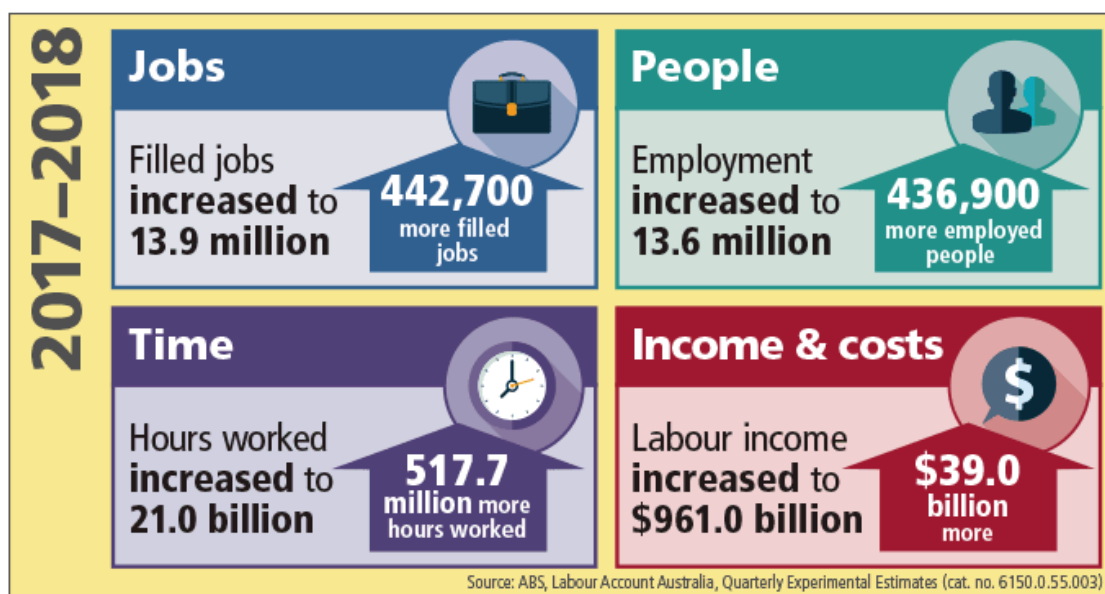
The remaining difference of 510,000 jobs, or 3.7% of the household based estimate, reflects the unavoidable measurement limitations related to measuring filled jobs and employment.

- Likely sources of measurement error in household based data include lack of knowledge about the jobs held by household members on the part of the person responding to the Labour Force Survey.
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**Figure 3: Results of the experimental Australian Labour Account for 2017–2018**



### FOR MORE INFORMATION

The Labour Account is designed to complement the existing suite of labour statistics. Australia's official labour force data are derived from the household Labour Force Survey and published in Labour Force, Australia (ABS cat. no. 6202.0), which remains the source of internationally comparable statistics on the labour force, employment and unemployment.

If you require detailed information essential for analysis of individual or household characteristics, such as household type, age, sex, income, occupation and educational qualifications, they should also use Labour Force Survey data.

The ABS has released four publications regarding the Labour Accounts:

- Australian Labour Account: Concepts, Sources and Methods (cat. no. 6150.0)
- Labour Account Australia, Experimental Estimates (cat. no. 6150.0.55.001)
- Information Paper: Australian Labour Account (cat. no. 6150.0.55.002)
- Labour Account Australia, Quarterly Experimental Estimates (cat. no. 6150.0.55.003)

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